

A  
**TABLE**

OF

*Logarithms,*

For Numbers Increasing in their Natural Order, from an Unit to 10000.

With a TABLE of Artificial SINES, TANGENTS and SECANTS, the Radius 10,000000.



DUBLIN:

Printed by S. Powell, for Geo. Grierson, at the Two Bibles in Essex-street, 1714.

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A TABLE of Logarithms,

from 1 to 1000.

| Num. Logar. | Num. Logar. | Num. Logar. |
|-------------|-------------|-------------|
| 1 0.000000  | 18 1.255272 | 35 1.544068 |
| 2 0.301030  | 19 1.278754 | 36 1.556302 |
| 3 0.477121  | 20 1.301030 | 37 1.568202 |
| 4 0.602060  | 21 1.322219 | 38 1.579784 |
| 5 0.698970  | 22 1.342423 | 39 1.591065 |
| 6 0.778151  | 23 1.361728 | 40 1.602060 |
| 7 0.845098  | 24 1.380211 | 41 1.612784 |
| 8 0.903090  | 25 1.397940 | 42 1.623249 |
| 9 0.954242  | 26 1.414973 | 43 1.633468 |
| 10 1.000000 | 27 1.431364 | 44 1.643453 |
| 11 1.041393 | 28 1.447158 | 45 1.652212 |
| 12 1.079181 | 29 1.462398 | 46 1.662758 |
| 13 1.113943 | 30 1.477121 | 47 1.672098 |
| 14 1.146128 | 31 1.491362 | 48 1.681241 |
| 15 1.176091 | 32 1.505150 | 49 1.690196 |
| 16 1.204120 | 33 1.518514 | 50 1.698970 |
| 17 1.230449 | 34 1.531479 | 51 1.707570 |

The Diff. to Supply the Log. of Numbers betwixt 1000 and 100.000.

| Nu. <sup>r</sup> | 0       | 1       | 2       | 3       | 4       | 5       |
|------------------|---------|---------|---------|---------|---------|---------|
| 100              | .000000 | .000434 | .000868 | .001301 | .001734 | .002167 |
| 101              | .004321 | .004751 | .005180 | .005609 | .006038 | .006467 |
| 102              | .008600 | .009026 | .009451 | .009876 | .010300 | .010724 |
| 103              | .012837 | .013259 | .013680 | .014100 | .014520 | .014941 |
| 104              | .017033 | .017451 | .017868 | .018284 | .018700 | .019119 |
| 105              | .021189 | .021603 | .022016 | .022428 | .022841 | .023253 |
| 106              | .025306 | .025715 | .026124 | .026533 | .026942 | .027350 |
| 107              | .029384 | .029789 | .030195 | .030600 | .031004 | .031404 |
| 108              | .033424 | .033826 | .034227 | .034628 | .035029 | .035429 |
| 109              | .037426 | .037825 | .038223 | .038620 | .039017 | .039416 |
| 110              | .041393 | .041787 | .042182 | .042575 | .042969 | .043359 |

## A Table of Logarithms.

| Num. Logar. | Num. Logar. | Num. Logar. |
|-------------|-------------|-------------|
| 52 1.716003 | 68 1.832509 | 84 1.924279 |
| 53 1.724276 | 69 1.838849 | 85 1.929419 |
| 54 1.732394 | 70 1.845098 | 86 1.934498 |
| 55 1.740363 | 71 1.851258 | 87 1.939519 |
| 56 1.748188 | 72 1.857332 | 88 1.944483 |
| 57 1.755875 | 73 1.863323 | 89 1.949390 |
| 58 1.763428 | 74 1.869232 | 90 1.954242 |
| 59 1.770852 | 75 1.875061 | 91 1.959041 |
| 60 1.778151 | 76 1.880814 | 92 1.963788 |
| 61 1.785330 | 77 1.886491 | 93 1.968483 |
| 62 1.792392 | 78 1.892095 | 94 1.973128 |
| 63 1.799340 | 79 1.897627 | 95 1.977724 |
| 64 1.806180 | 80 1.903090 | 96 1.982271 |
| 65 1.812913 | 81 1.908485 | 97 1.986772 |
| 66 1.819544 | 82 1.913814 | 98 1.991226 |
| 67 1.826075 | 83 1.919078 | 99 1.995635 |

The Diff. to Supply Log. of Numbers betwixt 100.000 and 100.000.

| No. | 5        | 1        | 6        | 7        | 8        | 9   | Diff. |
|-----|----------|----------|----------|----------|----------|-----|-------|
| 100 | 2.002166 | 2.002598 | 2.003029 | 2.003460 | 2.003891 | 432 |       |
| 101 | .006466  | .006894  | .007321  | .007748  | .008174  | 428 |       |
| 102 | .010724  | .011147  | .011570  | .011993  | .012415  | 424 |       |
| 103 | .014940  | .015360  | .015779  | .016197  | .016615  | 419 |       |
| 104 | .019116  | .019532  | .019947  | .020361  | .020775  | 416 |       |
| 105 | 2.023252 | 2.023664 | 2.024075 | 2.024486 | 2.024896 | 412 |       |
| 106 | .027350  | .027757  | .028164  | .028571  | .028978  | 408 |       |
| 107 | .031408  | .031812  | .032216  | .032619  | .033021  | 404 |       |
| 108 | .035430  | .035830  | .036229  | .036629  | .037028  | 400 |       |
| 109 | .039414  | .039811  | .040207  | .040602  | .040998  | 396 |       |
| 110 | .043362  | .043755  | .044148  | .044540  | .044931  | 393 |       |

from 1 to 10000.

| Num. | 0        | 1        | 2        | 3        | 4        | Dif. | Nu  |
|------|----------|----------|----------|----------|----------|------|-----|
| 111  | .045322  | .045714  | .046105  | .046495  | .046885  | 389  | 111 |
| 112  | .049218  | .049606  | .049992  | .050380  | .050766  | 386  | 111 |
| 113  | .053078  | .053462  | .053846  | .054230  | .054613  | 382  | 111 |
| 114  | .056904  | .057286  | .057666  | .058046  | .058426  | 379  | 111 |
| 115  | .060698  | .061075  | .061452  | .061829  | .062206  | 376  | 111 |
| 116  | .064448  | .064822  | .065205  | .065580  | .065953  | 373  | 111 |
| 117  | 2.068186 | 2.068557 | 2.068928 | 2.069298 | 2.069568 | 360  | 111 |
| 118  | .071882  | .072250  | .072617  | .072985  | .073352  | 36   | 111 |
| 119  | .075547  | .075912  | .076276  | .076640  | .077004  | 36   | 111 |
| 120  | .079181  | .079543  | .079904  | .080266  | .080626  | 36   | 120 |
| 121  | .082784  | .082144  | .082502  | .082861  | .084219  | 35   | 121 |
| 122  | .086265  | .086716  | .087074  | .087426  | .087781  | 35   | 122 |
| 123  | 2.086904 | 2.090258 | 2.090617 | 2.090962 | 2.091318 | 35   | 123 |
| 124  | .092422  | .092772  | .094122  | .094471  | .094820  | 34   | 124 |
| 125  | .096910  | .097257  | .097604  | .097951  | .098297  | 34   | 125 |
| 126  | .100277  | .100715  | .101040  | .101402  | .101747  | 34   | 126 |
| 127  | .103801  | .104145  | .104487  | .104828  | .105169  | 34   | 127 |
| 128  | .107270  | .107540  | .107888  | .108227  | .108565  | 32   | 128 |
| 129  | .110590  | .110926  | .111262  | .111598  | .111934  | 33   | 129 |
| 130  | .113942  | .114277  | .114611  | .114944  | .115278  | 33   | 130 |
| 131  | .117271  | .117602  | .117934  | .118264  | .118595  | 33   | 131 |
| 132  | .120571  | .120902  | .121231  | .121560  | .121888  | 32   | 132 |
| 133  | .122852  | .124178  | .124504  | .124830  | .125156  | 32   | 133 |
| 134  | .127109  | .127420  | .127752  | .128076  | .128400  | 29   | 134 |
| 135  | 2.120234 | 2.120654 | 2.120977 | 2.121298 | 2.121619 | 32   | 135 |
| 136  | .122530  | .123858  | .124177  | .124495  | .124814  | 31   | 136 |
| 137  | .126721  | .127037  | .127354  | .127670  | .127987  | 31   | 137 |
| 138  | .129870  | .140194  | .140508  | .140822  | .141136  | 31   | 138 |
| 139  | .142014  | .142227  | .142630  | .142951  | .144263  | 31   | 139 |
| 140  | .146128  | .146428  | .146748  | .147048  | .147367  | 29   | 140 |
| 141  | 2.140210 | 2.140527 | 2.140835 | 2.141142 | 2.141449 | 30   | 141 |
| 142  | .152288  | .152594  | .152900  | .153205  | .153510  | 30   | 142 |
| 143  | .155226  | .155640  | .155942  | .156246  | .156549  | 30   | 143 |
| 144  | .158261  | .158664  | .158964  | .159266  | .159567  | 30   | 144 |
| 145  | .161369  | .161667  | .161967  | .162266  | .162564  | 29   | 145 |
| 146  | .164252  | .164650  | .164947  | .165244  | .165541  | 29   | 146 |
| 147  | .167217  | .167612  | .167908  | .168202  | .168497  | 29   | 147 |

from 1 to 10000.

| Num. | 5        | 6        | 7        | 8        | 9        | Diff. |
|------|----------|----------|----------|----------|----------|-------|
| 111  | 2.047275 | 2.047664 | 2.048053 | 2.048442 | 2.048830 | 389   |
| 112  | .051152  | .051538  | .051924  | .052309  | .052694  | 386   |
| 113  | .054996  | .055378  | .055760  | .056142  | .056524  | 382   |
| 114  | .058805  | .059185  | .059563  | .059942  | .060320  | 379   |
| 115  | .062582  | .062958  | .063333  | .063709  | .064083  | 376   |
| 116  | .066326  | .066698  | .067071  | .067443  | .067814  | 372   |
| 117  | 2.070038 | 2.070407 | 2.070776 | 2.071145 | 2.071514 | 369   |
| 118  | .073718  | .074085  | .074451  | .074816  | .075182  | 366   |
| 119  | .077368  | .077731  | .078094  | .078457  | .078819  | 363   |
| 120  | .080987  | .081347  | .081707  | .082067  | .082426  | 360   |
| 121  | .084576  | .084934  | .085291  | .085647  | .086001  | 357   |
| 122  | .088136  | .088490  | .088845  | .089198  | .089552  | 355   |
| 123  | 2.091667 | 2.092018 | 2.092370 | 2.092721 | 2.093071 | 351   |
| 124  | .095169  | .095518  | .095866  | .096215  | .096562  | 349   |
| 125  | .098644  | .098990  | .099335  | .099681  | .100026  | 346   |
| 126  | .102090  | .102434  | .102777  | .103119  | .103462  | 343   |
| 127  | .105510  | .105851  | .106191  | .106531  | .106870  | 340   |
| 128  | .108903  | .109241  | .109578  | .109916  | .110253  | 338   |
| 129  | 2.112270 | 2.112605 | 2.112940 | 2.113275 | 2.113609 | 335   |
| 130  | .115610  | .115943  | .116276  | .116608  | .116940  | 333   |
| 131  | .118926  | .119256  | .119586  | .119915  | .120245  | 330   |
| 132  | .122216  | .122543  | .122871  | .123198  | .123525  | 328   |
| 133  | .125481  | .125806  | .126131  | .126456  | .126781  | 325   |
| 134  | .128722  | .129045  | .129368  | .129690  | .130012  | 323   |
| 135  | 2.131939 | 2.132260 | 2.132580 | 2.132900 | 2.133215 | 321   |
| 136  | .135133  | .135451  | .135768  | .136086  | .136403  | 318   |
| 137  | .138303  | .138618  | .138934  | .139249  | .139564  | 315   |
| 138  | .141450  | .141763  | .142076  | .142389  | .142702  | 314   |
| 139  | .144574  | .144885  | .145196  | .145507  | .145818  | 311   |
| 140  | .147676  | .147985  | .148294  | .148603  | .148911  | 309   |
| 141  | 2.150750 | 2.151063 | 2.151370 | 2.151676 | 2.151982 | 307   |
| 142  | .153815  | .154119  | .154424  | .154728  | .155032  | 305   |
| 143  | .156852  | .157154  | .157457  | .157759  | .158061  | 303   |
| 144  | .159868  | .160168  | .160468  | .160769  | .161068  | 301   |
| 145  | .162863  | .163161  | .163459  | .163757  | .164055  | 299   |
| 146  | .165838  | .166134  | .166430  | .166726  | .167022  | 297   |
| 147  | .168792  | .169086  | .169380  | .169674  | .169968  | 295   |

A Table of Logarithms.

| Num. | 0        | 1        | 2        | 3        | 4          | Num. |
|------|----------|----------|----------|----------|------------|------|
| 148  | 2.170262 | 2.170555 | 2.170848 | 2.171141 | 2.17143429 | 148  |
| 149  | .173186  | .173478  | .173769  | .174060  | .17435129  | 149  |
| 150  | .176001  | .176381  | .176670  | .176959  | .17724828  | 150  |
| 151  | .178977  | .179264  | .179552  | .179839  | .18012628  | 151  |
| 152  | .181844  | .182129  | .182415  | .182700  | .18298528  | 152  |
| 153  | .184691  | .184975  | .185259  | .185542  | .18582628  | 153  |
| 154  | 2.187521 | .187803  | 2.188084 | 2.188366 | 2.18864728 | 154  |
| 155  | .190332  | .190612  | .190892  | .191171  | .19145127  | 155  |
| 156  | .193125  | .193403  | .193681  | .193959  | .19423727  | 156  |
| 157  | .195900  | .196176  | .196452  | .196729  | .19700527  | 157  |
| 158  | .198657  | .198932  | .199206  | .199481  | .19975527  | 158  |
| 159  | .201397  | .201670  | .201943  | .202216  | .20248827  | 159  |
| 160  | 2.204120 | 2.204391 | 2.204662 | 2.204933 | 3.20520427 | 160  |
| 161  | .206826  | .207095  | .207365  | .207634  | .20790326  | 161  |
| 162  | .209515  | .209783  | .210051  | .210318  | .21058626  | 162  |
| 163  | .212188  | .212454  | .212720  | .212986  | .21325226  | 163  |
| 164  | .214844  | .215109  | .215373  | .215638  | .21590226  | 164  |
| 165  | .217484  | .217747  | .218010  | .218273  | .21852626  | 165  |
| 166  | 2.220108 | 2.220370 | 2.220631 | 2.220892 | 2.22115326 | 166  |
| 167  | .222716  | .222976  | .223236  | .223496  | .22375525  | 167  |
| 168  | .225309  | .225568  | .225826  | .226084  | .22634225  | 168  |
| 169  | .227887  | .228143  | .228400  | .228657  | .22891325  | 169  |
| 170  | .230449  | .230704  | .230960  | .231215  | .23147025  | 170  |
| 171  | .232996  | .233250  | .233504  | .233757  | .23401125  | 171  |
| 172  | 2.235528 | 2.235781 | 2.236033 | 2.236285 | 2.23653725 | 172  |
| 173  | .238046  | .238297  | .238548  | .238799  | .23904925  | 173  |
| 174  | .240549  | .240799  | .241048  | .241297  | .24154624  | 174  |
| 175  | .243038  | .243286  | .243534  | .243782  | .24403024  | 175  |
| 176  | .245513  | .245759  | .246006  | .246252  | .24649924  | 176  |
| 177  | .247973  | .248219  | .248464  | .248709  | .24895424  | 177  |
| 178  | 2.250420 | 2.250664 | 2.250908 | 2.251151 | 3.25139524 | 178  |
| 179  | .252853  | .253096  | .253338  | .253580  | .25382224  | 179  |
| 180  | .255272  | .255514  | .255755  | .255996  | .25623624  | 180  |
| 181  | .257679  | .257918  | .258158  | .258398  | .25863723  | 181  |
| 182  | .260071  | .260310  | .260548  | .260787  | .26102523  | 182  |
| 183  | .262451  | .262688  | .262925  | .263162  | .26339923  | 183  |
| 184  | .264818  | .265054  | .265290  | .265525  | .26576123  | 184  |

from 1 to 10000.

| Num. | 5        | 6        | 7        | 8        | 9        | Diff. |
|------|----------|----------|----------|----------|----------|-------|
| 148  | 2.171725 | 2.172019 | 2.172311 | 2.172603 | 2.172895 | 293   |
| 149  | .174641  | .174932  | .175222  | .175512  | .175802  | 291   |
| 150  | .177536  | .177825  | .178113  | .178401  | .178689  | 289   |
| 151  | .180413  | .180699  | .180986  | .181272  | .181558  | 287   |
| 152  | .183270  | .183554  | .183839  | .184123  | .184407  | 285   |
| 153  | .186108  | .186391  | .186674  | .186956  | .187239  | 283   |
| 154  | 2.188928 | 2.189209 | 2.189490 | 2.189771 | 2.190051 | 281   |
| 155  | .191730  | .192010  | .192289  | .192567  | .192846  | 279   |
| 156  | .194514  | .194792  | .195069  | .195346  | .195623  | 278   |
| 157  | .197280  | .197556  | .197832  | .198107  | .198382  | 276   |
| 158  | .200029  | .200303  | .200577  | .200850  | .201124  | 274   |
| 159  | .202761  | .203033  | .203305  | .203577  | .203848  | 272   |
| 160  | 2.205475 | 2.205745 | 2.206016 | 2.206286 | 2.206556 | 271   |
| 161  | .208172  | .208441  | .208710  | .208978  | .209247  | 269   |
| 162  | .210853  | .211120  | .211388  | .211654  | .211921  | 267   |
| 163  | .213518  | .213783  | .214049  | .214314  | .214579  | 266   |
| 164  | .216156  | .216430  | .216694  | .216957  | .217221  | 264   |
| 165  | .218798  | .219060  | .219322  | .219584  | .219846  | 262   |
| 166  | 2.221414 | 2.221675 | 2.221935 | 2.222196 | 2.222456 | 261   |
| 167  | .224015  | .224274  | .224533  | .224792  | .225051  | 259   |
| 168  | .226600  | .226858  | .227115  | .227372  | .227630  | 258   |
| 169  | .229170  | .229426  | .229682  | .229938  | .230193  | 256   |
| 170  | .231724  | .231979  | .232233  | .232488  | .232742  | 254   |
| 171  | .234264  | .234517  | .234770  | .235023  | .235276  | 253   |
| 172  | 2.236789 | 2.237041 | 2.237292 | 2.237544 | 2.237795 | 252   |
| 173  | .239299  | .239549  | .239800  | .240050  | .240299  | 250   |
| 174  | .241795  | .242044  | .242293  | .242541  | .242790  | 249   |
| 175  | .244277  | .244524  | .244772  | .245010  | .245266  | 248   |
| 176  | .246745  | .246991  | .247236  | .247482  | .247728  | 246   |
| 177  | .249108  | .249443  | .249687  | .249932  | .250176  | 245   |
| 178  | 2.251638 | 2.251881 | 2.252125 | 2.252367 | 2.252610 | 243   |
| 179  | .254064  | .254306  | .254548  | .254790  | .255031  | 242   |
| 180  | .256477  | .256718  | .256958  | .257198  | .257439  | 241   |
| 181  | .258877  | .259116  | .259355  | .259594  | .259833  | 239   |
| 182  | .261263  | .261501  | .261738  | .261976  | .262214  | 238   |
| 183  | .263636  | .263873  | .264109  | .264345  | .264582  | 237   |
| 184  | .265996  | .266232  | .266467  | .266702  | .266937  | 235   |

A Table of Logarithms,

| Num. | 0        | I        | 2        | 3        | 4        | D  |
|------|----------|----------|----------|----------|----------|----|
| 185  | 2.267172 | 2.267406 | 2.267641 | 2.267875 | 2.268110 | 23 |
| 186  | .269513  | .269746  | .269980  | .270213  | .270446  | 23 |
| 187  | .271842  | .272074  | .272306  | .272538  | .272770  | 23 |
| 188  | .274158  | .274389  | .274620  | .274850  | .275081  | 23 |
| 189  | .276462  | .276691  | .276921  | .277151  | .277380  | 22 |
| 190  | .278754  | .278982  | .279210  | .279439  | .279667  | 22 |
| 191  | 2.281033 | 2.281261 | 2.281488 | 2.281715 | 2.281942 | 22 |
| 192  | .283301  | .283527  | .283753  | .283979  | .284205  | 22 |
| 193  | .285557  | .285782  | .286007  | .286232  | .286456  | 22 |
| 194  | .287802  | .288025  | .288249  | .288473  | .288696  | 22 |
| 195  | .290035  | .290257  | .290480  | .290702  | .290925  | 22 |
| 196  | .292256  | .292478  | .292699  | .292920  | .293141  | 22 |
| 197  | 2.294466 | 2.294687 | 2.294907 | 2.295127 | 2.295347 | 22 |
| 198  | .296665  | .296884  | .297104  | .297323  | .297542  | 22 |
| 199  | .298853  | .299071  | .299289  | .299507  | .299725  | 22 |
| 200  | .301030  | .301247  | .301464  | .301681  | .301898  | 22 |
| 201  | .303196  | .303412  | .303628  | .303844  | .304059  | 22 |
| 202  | .305351  | .305566  | .305781  | .305996  | .306210  | 22 |
| 203  | 2.307496 | 2.307710 | 2.307924 | 2.308137 | 2.308351 | 22 |
| 204  | .309630  | .309843  | .310056  | .310268  | .310481  | 22 |
| 205  | .311754  | .311966  | .312177  | .312389  | .312600  | 22 |
| 206  | .313867  | .314078  | .314289  | .314499  | .314710  | 22 |
| 207  | .315970  | .316180  | .316390  | .316599  | .316809  | 22 |
| 208  | .318063  | .318272  | .318481  | .318689  | .318898  | 22 |
| 209  | 2.320146 | 2.320354 | .320362  | 2.320769 | 2.320977 | 21 |
| 210  | .322219  | .322426  | .322633  | .322839  | .323046  | 21 |
| 211  | .324282  | .324488  | .324694  | .324899  | .325105  | 21 |
| 212  | .326338  | .326541  | .326745  | .326950  | .327154  | 21 |
| 213  | .328380  | .328583  | .328787  | .328991  | .329194  | 21 |
| 214  | .330414  | .330617  | .330819  | .331022  | .331224  | 21 |
| 215  | 2.332438 | 2.332640 | 2.332842 | 2.333044 | 2.333246 | 21 |
| 216  | .334454  | .334655  | .334856  | .335056  | .335257  | 21 |
| 217  | .336460  | .336660  | .336860  | .337060  | .337260  | 21 |
| 218  | .338456  | .338656  | .338855  | .339054  | .339253  | 21 |
| 219  | .340444  | .340642  | .340840  | .341039  | .341237  | 21 |
| 220  | .342423  | .342620  | .342817  | .343014  | .343212  | 21 |
| 221  | .344392  | .344589  | .344785  | .344981  | .345178  | 21 |

from 1 to 10000.

| Num. | 5       | 6       | 7       | 8       | 9       | Dif. |
|------|---------|---------|---------|---------|---------|------|
| 185  | .268344 | .268578 | .268812 | .269046 | .269279 | 234  |
| 186  | .270679 | .270912 | .271144 | .271377 | .271609 | 233  |
| 187  | .273001 | .273233 | .273464 | .273696 | .273927 | 232  |
| 188  | .275311 | .275542 | .275772 | .276002 | .276232 | 230  |
| 189  | .277609 | .277838 | .278067 | .278296 | .278525 | 229  |
| 190  | .279895 | .280123 | .280351 | .280578 | .280806 | 228  |
| 191  | .282169 | .282395 | .282622 | .282849 | .283075 | 227  |
| 192  | .284431 | .284656 | .284882 | .285107 | .285332 | 226  |
| 193  | .286681 | .286905 | .287130 | .287354 | .287578 | 225  |
| 194  | .288920 | .289143 | .289366 | .289589 | .289812 | 223  |
| 195  | .291147 | .291369 | .291591 | .291813 | .292034 | 222  |
| 196  | .293362 | .293583 | .293804 | .294025 | .294246 | 221  |
| 197  | .295567 | .295787 | .296007 | .296226 | .296446 | 220  |
| 198  | .297760 | .297979 | .298198 | .298416 | .298635 | 219  |
| 199  | .299943 | .300160 | .300378 | .300595 | .300813 | 218  |
| 200  | .302114 | .302331 | .302547 | .302764 | .302980 | 217  |
| 201  | .304275 | .304490 | .304706 | .304921 | .305136 | 216  |
| 202  | .306425 | .306639 | .306854 | .307068 | .307282 | 215  |
| 203  | .308564 | .308778 | .308991 | .309204 | .309417 | 213  |
| 204  | .310693 | .310906 | .311118 | .311330 | .311542 | 212  |
| 205  | .312812 | .313023 | .313324 | .313445 | .313656 | 211  |
| 206  | .314920 | .315130 | .315340 | .315550 | .315760 | 210  |
| 207  | .317018 | .317227 | .317436 | .317645 | .317854 | 209  |
| 208  | .319106 | .319314 | .319522 | .319730 | .319928 | 208  |
| 209  | .321184 | .321391 | .321598 | .321805 | .322012 | 207  |
| 210  | .323252 | .323458 | .323664 | .323871 | .324077 | 206  |
| 211  | .325310 | .325516 | .325721 | .325926 | .326131 | 205  |
| 212  | .327359 | .327563 | .327767 | .327972 | .328176 | 204  |
| 213  | .329398 | .329601 | .329804 | .330008 | .330211 | 203  |
| 214  | .331427 | .331620 | .331832 | .332034 | .332230 | 202  |
| 215  | .333447 | .333649 | .333850 | .334051 | .334253 | 202  |
| 216  | .335458 | .335658 | .335859 | .336059 | .336259 | 201  |
| 217  | .337459 | .337659 | .337858 | .338058 | .338257 | 200  |
| 218  | .339451 | .339650 | .339849 | .340047 | .340246 | 199  |
| 219  | .341434 | .341632 | .341830 | .342028 | .342225 | 198  |
| 220  | .343409 | .343605 | .343802 | .343999 | .344196 | 197  |
| 221  | .345374 | .345570 | .345760 | .345951 | .346157 | 196  |

**A Table of Logarithms,**

| <b>Num.</b> | <b>0</b> | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>Diff.</b> |
|-------------|----------|----------|----------|----------|----------|--------------|
| 222         | 2.346353 | 2.346549 | 2.346744 | 2.346939 | 2.347135 | 195          |
| 223         | .348305  | .348500  | .348694  | .348889  | .349083  | 194          |
| 224         | 350248   | .350442  | .350636  | .350829  | .351023  | 193          |
| 225         | .352182  | .352375  | .352568  | .352761  | .352954  | 193          |
| 226         | .354108  | .354301  | .354493  | .354684  | .354876  | 192          |
| 227         | .356026  | .356217  | .356408  | .356599  | .356790  | 192          |
| 228         | 2.357935 | 2.358125 | 2.358316 | 2.358506 | 2.358696 | 190          |
| 229         | .359835  | .360025  | .360215  | .360404  | .360593  | 189          |
| 230         | .361728  | .361917  | .362105  | .362294  | .362482  | 188          |
| 231         | .363612  | .363800  | .363988  | .364176  | .364363  | 188          |
| 232         | .365488  | .365675  | .365862  | .366049  | .366236  | 187          |
| 233         | .367356  | .367542  | .367728  | .367915  | .368101  | 187          |
| 234         | 2.369216 | 2.369401 | 2.369587 | 2.369772 | 2.369958 | 18           |
| 235         | .371068  | .371253  | .371437  | .371622  | .371806  | 18           |
| 236         | .372912  | .373096  | .373280  | .373464  | .373647  | 18           |
| 237         | .374748  | .374931  | .375115  | .375298  | .375481  | 18           |
| 238         | .376577  | .376759  | .376942  | .377124  | .377306  | 18           |
| 239         | .378398  | .378580  | .378761  | .378943  | .379124  | 18           |
| 240         | 2.380211 | 2.380392 | 2.380573 | 2.380754 | 2.380934 | 18           |
| 241         | .382017  | .382197  | .382377  | .382557  | .382737  | 18           |
| 242         | .383815  | .383995  | .384174  | .384353  | .384533  | 17           |
| 243         | .385606  | .385785  | .385964  | .386142  | .386321  | 17           |
| 244         | .387390  | .387568  | .387746  | .387923  | .388101  | 17           |
| 245         | .389166  | .389343  | .389520  | .389967  | .389874  | 17           |
| 246         | 2.390935 | 2.391112 | 2.391288 | 2.391464 | 2.391641 | 17           |
| 247         | .392697  | .392873  | .393048  | .393224  | .393400  | 17           |
| 248         | .394452  | .394627  | .394802  | .394977  | .395152  | 17           |
| 249         | .396199  | .396374  | .396548  | .396722  | .396896  | 17           |
| 250         | .397940  | .398114  | .398287  | .398461  | .398634  | 17           |
| 251         | .399674  | .400847  | .400020  | .400192  | .400365  | 17           |
| 252         | 2.401400 | 2.401573 | 2.401745 | 2.401917 | 2.402089 | 17           |
| 253         | .403120  | .403292  | .403464  | .403635  | .403807  | 17           |
| 254         | .404834  | .405005  | .405175  | .405346  | .405517  | 17           |
| 255         | .406540  | .406710  | .406881  | .407051  | .407221  | 17           |
| 256         | .408240  | .408400  | .408579  | .408749  | .408918  | 17           |
| 257         | .409933  | .410102  | .410271  | .410440  | .410608  | 17           |
| 258         | .411620  | .411788  | .411956  | .412124  | .412292  | 17           |

from 1 to 10000.

| Diff. | Num. | 5        | 6        | 7        | 8        | 9        | Diff. |
|-------|------|----------|----------|----------|----------|----------|-------|
| 195   | 222  | 2.347330 | 2.347525 | 2.347720 | 2.347915 | 2.348110 | 195   |
| 194   | 223  | .349277  | .349472  | .349660  | .349860  | .350054  | 194   |
| 193   | 224  | .351216  | .351500  | .351603  | .351796  | .351989  | 193   |
| 193   | 224  | .353146  | .353339  | .353532  | .353724  | .353916  | 193   |
| 192   | 226  | .355068  | .355260  | .355451  | .355642  | .355834  | 192   |
| 192   | 227  | .356981  | .357172  | .357263  | .357354  | .357744  | 191   |
| 190   | 228  | 2.358886 | 2.359076 | 2.359266 | 2.359456 | 2.359646 | 190   |
| 189   | 229  | .360783  | .360972  | .361161  | .361350  | .361529  | 189   |
| 188   | 230  | .362671  | .362859  | .363048  | .363236  | .363424  | 188   |
| 188   | 231  | .364551  | .364739  | .364928  | .365113  | .365301  | 188   |
| 187   | 232  | .366423  | .366700  | .366796  | .366983  | .367169  | 187   |
| 187   | 233  | .368287  | .368472  | .368659  | .368844  | .369030  | 186   |
| 186   | 234  | 2.370143 | 2.370328 | 2.370513 | 2.370698 | 2.370883 | 185   |
| 185   | 235  | .371991  | .372175  | .372360  | .372544  | .372728  | 184   |
| 184   | 236  | .373831  | .374015  | .374198  | .374382  | .374565  | 184   |
| 183   | 237  | .375664  | .375846  | .376029  | .376212  | .376394  | 183   |
| 182   | 238  | .377488  | .377670  | .377852  | .378034  | .378216  | 182   |
| 181   | 239  | .379305  | .379487  | .379668  | .379849  | .380030  | 181   |
| 180   | 240  | 2.381115 | 2.381296 | 2.381476 | 2.381656 | 2.381837 | 181   |
| 179   | 241  | .382917  | .383097  | .383277  | .383456  | .383636  | 180   |
| 178   | 242  | .384712  | .384891  | .385070  | .385249  | .385427  | 179   |
| 177   | 243  | .386499  | .386677  | .386855  | .387034  | .387212  | 178   |
| 176   | 244  | .388279  | .388456  | .388634  | .388811  | .388980  | 178   |
| 175   | 245  | .390051  | .390228  | .390405  | .390582  | .390748  | 177   |
| 174   | 246  | .391817  | 2.391993 | 2.392169 | 2.392345 | 2.392521 | 176   |
| 173   | 247  | .393575  | .393751  | .393926  | .394101  | .394276  | 176   |
| 172   | 248  | .395326  | .395501  | .395676  | .395850  | .396025  | 175   |
| 171   | 249  | .397070  | .397245  | .397418  | .397592  | .397766  | 174   |
| 170   | 250  | .398808  | .398981  | 3.99154  | .399327  | .399501  | 173   |
| 169   | 251  | .400528  | .400711  | .400883  | .401056  | .401228  | 173   |
| 168   | 252  | .402261  | 2.402433 | 2.402605 | 2.402777 | 2.402945 | 172   |
| 167   | 253  | .403978  | .404149  | .404320  | .404492  | .404663  | 171   |
| 166   | 254  | .405688  | .405858  | .406029  | .406199  | .406370  | 171   |
| 165   | 255  | .407391  | .407561  | .407731  | .407900  | .408070  | 170   |
| 164   | 256  | .409087  | .409257  | .409426  | .409595  | .409764  | 169   |
| 163   | 257  | .410777  | .410946  | .411114  | .411283  | .411451  | 169   |
| 162   | 258  | .412160  | .412628  | .412796  | .412964  | .413132  | 168   |

A Table of Logarithms,

| Num | 0        | I        | 2        | 3        | 4        | Dif. | Num |
|-----|----------|----------|----------|----------|----------|------|-----|
| 259 | 2.413300 | 2.413467 | 2.413635 | 2.413802 | 2.413970 | 167  | 259 |
| 260 | .414973  | .415140  | .415307  | .415474  | .415641  | 167  | 260 |
| 261 | .416640  | .416807  | .416973  | .417139  | .417306  | 166  | 261 |
| 262 | .418301  | .418467  | .418633  | .418798  | .418964  | 165  | 262 |
| 263 | .419956  | .420121  | .420286  | .420451  | .420616  | 165  | 263 |
| 264 | .421604  | .421768  | .421923  | .422097  | .422261  | 164  | 264 |
| 265 | 2.423246 | 2.423410 | 2.423573 | 2.423737 | 2.423901 | 164  | 265 |
| 266 | .424882  | .425045  | .425208  | .425371  | .425534  | 163  | 266 |
| 267 | .425511  | .426574  | .426836  | .426999  | .427161  | 162  | 267 |
| 268 | .428135  | .428297  | .428459  | .428621  | .428782  | 162  | 268 |
| 269 | .429752  | .429914  | .430075  | .430236  | .430398  | 761  | 269 |
| 270 | .431364  | .431525  | .431685  | .431846  | .432007  | 161  | 270 |
| 271 | 2.432959 | 2.433129 | 2.433290 | 2.433450 | 2.433610 | 160  | 271 |
| 272 | .434569  | .434728  | .434888  | .435048  | .435207  | 159  | 272 |
| 273 | .436153  | .436322  | .436481  | .436640  | .436798  | 159  | 273 |
| 274 | .437751  | .437909  | .438067  | .438226  | .438384  | 158  | 274 |
| 275 | .439333  | .439491  | .439648  | .439806  | .439964  | 158  | 275 |
| 276 | .440909  | .441066  | .441224  | .441381  | .441528  | 157  | 276 |
| 277 | 2.442480 | 2.442630 | 2.442793 | 2.442950 | 2.443100 | 157  | 277 |
| 278 | .444045  | .444201  | .444357  | .444513  | .444669  | 156  | 278 |
| 279 | .445604  | .445760  | .445915  | .446071  | .446226  | 155  | 279 |
| 280 | .447158  | .447313  | .447468  | .447623  | .447778  | 155  | 280 |
| 281 | .448706  | .448861  | .449015  | .449170  | .449324  | 154  | 281 |
| 282 | .450259  | .450403  | .450557  | .450711  | .450865  | 154  | 282 |
| 283 | 2.451786 | 2.451940 | 2.452093 | 2.452247 | 2.452400 | 153  | 283 |
| 284 | .453318  | .453471  | .453624  | .453777  | .453930  | 153  | 284 |
| 285 | .454845  | .454997  | .455149  | .455302  | .455454  | 152  | 285 |
| 286 | .456266  | .456518  | .456670  | .456821  | .456973  | 152  | 286 |
| 287 | .457882  | .458033  | .458184  | .458336  | .458487  | 151  | 287 |
| 288 | .459392  | .459543  | .459694  | .459845  | .459996  | 151  | 288 |
| 289 | 2.460898 | 2.461048 | 2.461198 | 2.461348 | 2.461498 | 150  | 289 |
| 290 | .462398  | .462548  | .462697  | .462847  | .462997  | 149  | 290 |
| 291 | .463893  | .464042  | .464191  | .464340  | .464489  | 149  | 291 |
| 292 | .465383  | .465532  | .465680  | .465829  | .465977  | 140  | 292 |
| 293 | .466858  | .467016  | .467164  | .467312  | .467460  | 148  | 293 |
| 294 | .468347  | .468495  | .468643  | .468790  | .468938  | 147  | 294 |
| 295 | .469822  | .469959  | .470116  | .470263  | .470410  | 147  | 295 |

from 1 to 10000.

| Num. | 5        | 6        | 7        | 8        | 6        | Diff |
|------|----------|----------|----------|----------|----------|------|
| 259  | 2.414137 | 2.414305 | 2.414472 | 2.414639 | 2.414806 | 167  |
| 260  | .415808  | .415974  | .416141  | .416308  | .416474  | 167  |
| 261  | .417472  | .417638  | .417804  | .417970  | .418135  | 160  |
| 262  | .419129  | .419295  | .419460  | .419625  | .419791  | 165  |
| 263  | .420781  | .420945  | .421110  | .421275  | .421439  | 165  |
| 264  | .422426  | .422590  | .422754  | .422918  | .423082  | 164  |
| 265  | 2.424064 | 2.424228 | 2.424391 | 2.424555 | 2.424718 | 104  |
| 266  | .425697  | .425860  | .426023  | .426186  | .426349  | 163  |
| 267  | .427324  | .427486  | .427648  | .427811  | .427973  | 162  |
| 268  | .428944  | .429106  | .429268  | .429429  | .429591  | 162  |
| 269  | .430559  | .430720  | .430881  | .431042  | .431203  | 161  |
| 270  | .432167  | .432328  | .432488  | .432649  | .432809  | 165  |
| 271  | 2.433770 | 2.433930 | 2.434090 | 2.434249 | 2.434409 | 160  |
| 272  | .435366  | .435526  | .435685  | .435844  | .436003  | 159  |
| 273  | .436957  | .437116  | .437275  | .437433  | .437592  | 159  |
| 274  | .438542  | .438700  | .438859  | .439017  | .439175  | 158  |
| 275  | .440122  | .440279  | .440437  | .440594  | .440752  | 158  |
| 276  | .441695  | .441852  | .442009  | .442166  | .442325  | 157  |
| 277  | 2.443263 | 2.443419 | 2.443570 | 2.443732 | 2.443888 | 157  |
| 278  | .444825  | .444981  | .445137  | .445293  | .445448  | 156  |
| 279  | .446382  | .446537  | .446692  | .446848  | .447003  | 155  |
| 280  | .447933  | .448088  | .448242  | .448397  | .448552  | 155  |
| 281  | .449478  | .449633  | .449787  | .449941  | .450095  | 154  |
| 282  | .451018  | .451172  | .451326  | .451479  | .451632  | 154  |
| 283  | 2.452553 | 2.452706 | 2.452859 | 2.453012 | 2.453165 | 153  |
| 284  | .454082  | .454235  | .454387  | .454540  | .454692  | 153  |
| 285  | .455606  | .455758  | .455910  | .456062  | .456214  | 152  |
| 286  | .457125  | .457276  | .457428  | .457579  | .457730  | 152  |
| 287  | .458638  | .458789  | .458940  | .459091  | .459242  | 151  |
| 288  | .460145  | .460295  | .460447  | .460597  | .460747  | 151  |
| 289  | 2.461649 | 2.461799 | 2.461948 | 2.462098 | 2.462248 | 150  |
| 290  | .463146  | .463295  | .463445  | .463594  | .463744  | 150  |
| 291  | .464639  | .464787  | .464936  | .465085  | .465234  | 149  |
| 292  | .466126  | .466274  | .466423  | .466571  | .466719  | 149  |
| 293  | .467608  | .467756  | .467904  | .468052  | .468200  | 148  |
| 294  | .469085  | .469233  | .469380  | .469527  | .469675  | 147  |
| 295  | .470557  | .470704  | .470851  | .470993  | .471145  | 147  |

A Table of Logarithms,

| Nun. | 0        | 1        | 2        | 3        | 4        | Dif. | Nu. |
|------|----------|----------|----------|----------|----------|------|-----|
| 296  | 2.471292 | 2.471438 | 2.471585 | 2.471733 | 2.471878 | 146  | 297 |
| 297  | .472756  | .472903  | .473049  | .473195  | .473341  | 146  | 298 |
| 298  | .474216  | .474362  | .474508  | .474653  | .474799  | 146  | 299 |
| 299  | .475671  | .475816  | .475962  | .476107  | .476252  | 146  | 300 |
| 300  | .477121  | .477266  | .477411  | .477556  | .477700  | 146  | 301 |
| 301  | .478560  | .478711  | .478855  | .478999  | .479143  | 146  | 302 |
| 302  | .480007  | .480151  | .480294  | .480438  | .480582  | 146  | 303 |
| 303  | .481443  | .481586  | .481729  | .481872  | .482016  | 146  | 304 |
| 304  | .482874  | .483016  | .483159  | .483302  | .483445  | 146  | 305 |
| 305  | .484300  | .484442  | .484584  | .484727  | .484869  | 146  | 306 |
| 306  | .485721  | .485863  | .486005  | .486147  | .486289  | 146  | 307 |
| 307  | .487138  | .487280  | .487421  | .487563  | .487704  | 146  | 308 |
| 308  | 2.488551 | 2.488692 | 2.488833 | 2.488973 | 2.489114 | 146  | 309 |
| 309  | .489958  | .490099  | .490239  | .490380  | .490520  | 146  | 310 |
| 310  | .491362  | .491502  | .491642  | .491782  | .491922  | 146  | 311 |
| 311  | .492760  | .492900  | .493040  | .493179  | .493319  | 146  | 312 |
| 312  | .494155  | .494294  | .494433  | .494572  | .494711  | 146  | 313 |
| 313  | .495544  | .495683  | .495822  | .495960  | .496099  | 146  | 314 |
| 314  | .495930  | .497068  | .497206  | .497344  | .497482  | 146  | 315 |
| 315  | .498311  | .498448  | .498586  | .498724  | .498862  | 146  | 316 |
| 316  | .499687  | .499824  | .499962  | .500099  | .500236  | 146  | 317 |
| 317  | .501059  | .501196  | .501333  | .501470  | .501607  | 146  | 318 |
| 318  | .502427  | .502564  | .502700  | .502837  | .502973  | 146  | 319 |
| 319  | .503791  | .503927  | .504062  | .504199  | .504335  | 146  | 320 |
| 320  | 2.505150 | 2.505286 | 2.505421 | 2.505557 | 2.505692 | 146  | 321 |
| 321  | .505505  | .505640  | .505775  | .505911  | .507046  | 146  | 322 |
| 322  | .507856  | .507991  | .508125  | .508260  | .508395  | 146  | 323 |
| 323  | .509202  | .509337  | .509471  | .509606  | .509740  | 146  | 324 |
| 324  | .510545  | .510679  | .510813  | .510947  | .511081  | 146  | 325 |
| 325  | .511883  | .512017  | .512150  | .512284  | .512417  | 146  | 326 |
| 326  | .513218  | .513351  | .513484  | .513617  | .513750  | 146  | 327 |
| 327  | .514548  | .514680  | .514813  | .514946  | .515079  | 146  | 328 |
| 328  | .515874  | .516005  | .516138  | .516271  | .516403  | 146  | 329 |
| 329  | .517193  | .517328  | .517460  | .517592  | .517724  | 146  | 330 |
| 330  | .518514  | .518645  | .518777  | .518909  | .519040  | 146  | 331 |
| 331  | .519828  | .519959  | .520090  | .520221  | .520352  | 146  | 332 |
| 332  | .52113   | .521269  | .521400  | .521530  | .521661  | 146  | 333 |

from 1 to 1000.

| Num. | 5        | 6        | 7        | 8        | 9        | Dif. |
|------|----------|----------|----------|----------|----------|------|
| 296  | 2.472025 | 2.472171 | 2.472317 | 2.472464 | 2.472610 | 146  |
| 297  | .473487  | .473633  | .473779  | .473925  | .474070  | 146  |
| 298  | .474944  | .475090  | .475235  | .475381  | .475526  | 146  |
| 299  | .476397  | .476542  | .476687  | .476832  | .476976  | 145  |
| 300  | .477844  | .477989  | .478132  | .478278  | .478422  | 145  |
| 301  | .479287  | .479431  | .479575  | .479719  | .479863  | 144  |
| 302  | 2.480725 | 2.480869 | 2.481012 | 2.481156 | 2.481299 | 144  |
| 303  | .482159  | .482302  | .482445  | .482588  | .482731  | 143  |
| 304  | .483587  | .483730  | .483872  | .484015  | .484157  | 143  |
| 305  | .485011  | .485153  | .485295  | .485437  | .485579  | 142  |
| 306  | .486430  | .486572  | .486714  | .486855  | .486997  | 142  |
| 307  | .487845  | .487986  | .488127  | .488269  | .488410  | 141  |
| 308  | 2.489255 | 2.489396 | 2.489537 | 2.489677 | 2.489818 | 141  |
| 309  | .490661  | .490801  | .490941  | .491081  | .491222  | 140  |
| 310  | .492062  | .492201  | .492341  | .492481  | .492621  | 140  |
| 311  | .493458  | .493597  | .493737  | .493876  | .494015  | 139  |
| 312  | .494850  | .494989  | .495128  | .495267  | .495406  | 139  |
| 313  | .496227  | .496376  | .496514  | .496653  | .496791  | 139  |
| 314  | 2.497621 | 2.497759 | 2.497897 | 2.498035 | 2.498173 | 138  |
| 315  | .498999  | .499137  | .499275  | .499412  | .499550  | 138  |
| 316  | .500374  | .500511  | .500648  | .500785  | .500922  | 137  |
| 317  | .501744  | .501880  | .502017  | .502154  | .502290  | 137  |
| 318  | .503109  | .503246  | .503382  | .503518  | .503654  | 136  |
| 319  | .504471  | .504607  | .504743  | .504878  | .505014  | 126  |
| 320  | 2.505828 | 2.505903 | 2.506099 | 2.506234 | 2.506370 | 136  |
| 321  | .507181  | .507316  | .507451  | .507586  | .507721  | 135  |
| 322  | .508530  | .508664  | .508799  | .508933  | .509068  | 135  |
| 323  | .509874  | .510008  | .510143  | .510277  | .510411  | 134  |
| 324  | .511215  | .511348  | .511482  | .511616  | .511750  | 134  |
| 325  | .512551  | .512684  | .512818  | .512951  | .513084  | 133  |
| 326  | 2.513883 | 2.514016 | 2.514149 | 2.514282 | 2.514415 | 133  |
| 327  | .515211  | .515344  | .515476  | .515609  | .515741  | 132  |
| 328  | .516535  | .516668  | .516800  | .516932  | .517064  | 132  |
| 329  | .517855  | .517987  | .518119  | .518251  | .518382  | 132  |
| 330  | .519171  | .519303  | .519434  | .519565  | .519697  | 131  |
| 331  | .520483  | .520614  | .520745  | .520876  | .521007  | 131  |
| 332  | .521792  | .521922  | .522053  | .522183  | .522314  | 131  |

A Table of Logarithms,

| Num. | 0        | 1        | 2        | 3        | 4        | Diff. |
|------|----------|----------|----------|----------|----------|-------|
| 333  | 2.522444 | 2.522575 | 2.522705 | 2.522835 | 2.522966 | 130   |
| 334  | .523746  | .523876  | .524006  | .524136  | .524266  | 130   |
| 335  | .525045  | .525174  | .525304  | .525433  | .525563  | 129   |
| 336  | .526339  | .526468  | .526598  | .526727  | .526856  | 129   |
| 337  | .527630  | .527759  | .527888  | .528016  | .528145  | 129   |
| 338  | .528917  | .529045  | .529174  | .529302  | .529430  | 129   |
| 339  | 2.530200 | 2.530328 | 2.530456 | 2.530584 | 2.530712 | 128   |
| 340  | .531475  | .531607  | .531734  | .531862  | .531989  | 128   |
| 341  | .532754  | .532882  | .533009  | .533136  | .533263  | 127   |
| 342  | .534026  | .534153  | .534280  | .534407  | .534534  | 127   |
| 343  | .535294  | .535421  | .535547  | .535674  | .535800  | 126   |
| 344  | .536558  | .536685  | .536811  | .536937  | .537062  | 126   |
| 345  | 2.537815 | 2.537945 | 2.538071 | 2.538197 | 2.538322 | 125   |
| 346  | .539076  | .539202  | .539327  | .539452  | .539578  | 125   |
| 347  | .540329  | .540455  | .540580  | .540705  | .540830  | 124   |
| 348  | .541579  | .541704  | .541829  | .541953  | .542078  | 124   |
| 349  | .542825  | .542950  | .543074  | .543199  | .543323  | 123   |
| 350  | .544068  | .544192  | .544316  | .544440  | .544563  | 123   |
| 351  | 2.545307 | 2.545431 | 2.545554 | 2.545678 | 2.545802 | 122   |
| 352  | .546543  | .546666  | .546789  | .546913  | .547036  | 122   |
| 353  | .547775  | .547898  | .548021  | .548144  | .548266  | 121   |
| 354  | .549003  | .549126  | .549249  | .549371  | .549494  | 121   |
| 355  | .550228  | .550351  | .550473  | .550595  | .550717  | 120   |
| 356  | .551450  | .551572  | .551694  | .551816  | .551938  | 120   |
| 357  | .552668  | 2.552790 | 2.552911 | 2.553033 | 2.553154 | 12    |
| 358  | .553883  | .554004  | .554126  | .554247  | .554368  | 12    |
| 359  | .555094  | .555215  | .555336  | .555457  | .555578  | 12    |
| 360  | .556302  | .556423  | .556544  | .556664  | .556785  | 13    |
| 361  | .557507  | .557627  | .557748  | .557868  | .557988  | 12    |
| 362  | .558709  | .558828  | .558948  | .559068  | .559188  | 12    |
| 363  | 2.569905 | 2.560026 | 2.560146 | 2.560265 | 2.560385 | 11    |
| 364  | .561191  | .561221  | .561340  | .561459  | .561578  | 11    |
| 365  | .562293  | .562412  | .562531  | .562650  | .562768  | 11    |
| 366  | .563481  | .563600  | .563718  | .563837  | .563955  | 11    |
| 367  | .564666  | .564784  | .564903  | .565021  | .565139  | 11    |
| 368  | .565848  | .565966  | .566084  | .566202  | .566320  | 11    |
| 369  | .567026  | .567144  | .567262  | .567379  | .567497  | 11    |

From 1 to 10000.

| Num. | 5        | 6        | 7        | 8        | 9        | Diff. |
|------|----------|----------|----------|----------|----------|-------|
| 333  | 2.523096 | 2.523226 | 2.523356 | 2.523486 | 2.523616 | 130   |
| 334  | .524396  | .524526  | .524656  | .524785  | .524915  | 130   |
| 335  | .525992  | .525822  | .525951  | .526081  | .526210  | 129   |
| 336  | .526985  | .527114  | .527243  | .527372  | .527501  | 129   |
| 337  | .528274  | .528402  | .528531  | .528660  | .528788  | 129   |
| 338  | .529559  | .529687  | .529815  | .529943  | .530072  | 128   |
| 339  | 2.530840 | 2.530968 | 2.531095 | 2.531223 | 2.531351 | 128   |
| 340  | .532117  | .532245  | .532372  | .532500  | .532627  | 128   |
| 341  | .533391  | .533518  | .533645  | .533772  | .533899  | 127   |
| 342  | .534661  | .534787  | .534914  | .535041  | .535167  | 127   |
| 343  | .535927  | .536053  | .536179  | .536306  | .536432  | 126   |
| 344  | .527189  | .527315  | .527441  | .527567  | .527693  | 126   |
| 345  | 2.538448 | 2.538574 | 2.538699 | 2.538825 | 2.538951 | 126   |
| 346  | .539704  | .539828  | .539954  | .540079  | .540204  | 125   |
| 347  | .540955  | .541080  | .541205  | .541330  | .541454  | 125   |
| 348  | .542203  | .542327  | .542452  | .542576  | .542701  | 125   |
| 349  | .543447  | .543571  | .543696  | .543820  | .543944  | 124   |
| 350  | .544688  | .544812  | .544936  | .545060  | .545183  | 124   |
| 351  | 2.545925 | 2.546049 | 2.546172 | 2.546296 | 2.546419 | 124   |
| 352  | .547159  | .547282  | .547405  | .547529  | .547652  | 123   |
| 353  | .548389  | .548512  | .548635  | .548758  | .548881  | 123   |
| 354  | .549610  | .549739  | .549861  | .549984  | .550106  | 123   |
| 355  | .550840  | .550962  | .551084  | .551206  | .551328  | 122   |
| 356  | .552099  | .552181  | .552303  | .552425  | .552546  | 122   |
| 357  | 2.553276 | 2.553397 | 2.553519 | 2.553640 | 2.553762 | 121   |
| 358  | .554489  | .554610  | .554731  | .554852  | .554973  | 121   |
| 359  | .555699  | .555820  | .555940  | .556061  | .556182  | 121   |
| 360  | .556905  | .557026  | .557146  | .557265  | .557387  | 120   |
| 361  | .558108  | .558228  | .558348  | .558469  | .558589  | 120   |
| 362  | .559308  | .559428  | .559548  | .559667  | .559787  | 120   |
| 363  | 2.560504 | 2.560624 | 2.560743 | 2.560863 | 2.560982 | 119   |
| 364  | .561697  | .561817  | .561936  | .562055  | .562174  | 119   |
| 365  | .562887  | .563006  | .563125  | .563244  | .563362  | 119   |
| 366  | .564074  | .564192  | .564311  | .564429  | .564548  | 119   |
| 367  | .565257  | .565375  | .565494  | .565612  | .565730  | 118   |
| 368  | .566437  | .566555  | .566673  | .566791  | .566909  | 118   |
| 369  | .567614  | .567732  | .567849  | .567967  | .568084  | 118   |

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A Table of Logarithms,

| Num. | 0        | 1        | 2        | 3        | 4        | Dif. | Num. |
|------|----------|----------|----------|----------|----------|------|------|
| 370  | 2.568202 | 2.568319 | 2.568436 | 2.568554 | 2.568671 | 117  | 370  |
| 371  | .569374  | .569491  | .569608  | .569725  | .569842  | 117  | 371  |
| 372  | .570543  | .570660  | .570776  | .570893  | .571010  | 117  | 372  |
| 373  | .571709  | .571825  | .571942  | .572058  | .572174  | 116  | 373  |
| 374  | .572872  | .572988  | .573104  | .573220  | .573336  | 116  | 374  |
| 375  | .574031  | .574147  | .574263  | .574379  | .574494  | 116  | 375  |
| 376  | 2.575188 | .575303  | 2.575419 | .575534  | 2.575650 | 115  | 376  |
| 377  | .576341  | .576456  | .576572  | .576687  | .576802  | 115  | 377  |
| 378  | .577492  | .577607  | .577721  | .577836  | .577951  | 115  | 378  |
| 379  | .578639  | .578754  | .578868  | .578983  | .579097  | 114  | 379  |
| 380  | .579784  | .579898  | .580012  | .580126  | .580240  | 114  | 380  |
| 381  | .580925  | .581039  | .581153  | .581267  | .581381  | 114  | 381  |
| 382  | 2.582063 | 2.582177 | 2.582291 | 2.582404 | 2.582518 | 114  | 382  |
| 383  | .583195  | .583312  | .583425  | .583539  | .583652  | 113  | 383  |
| 384  | .584331  | .584444  | .584557  | .584670  | .584783  | 113  | 384  |
| 385  | .585461  | .585573  | .585686  | .585799  | .585912  | 113  | 385  |
| 386  | .586587  | .586700  | .586812  | .586925  | .587037  | 112  | 386  |
| 387  | .587711  | .587823  | .587935  | .588047  | .588160  | 112  | 387  |
| 388  | 2.588832 | 2.588944 | 2.589055 | 2.589167 | 2.589279 | 112  | 388  |
| 389  | .589950  | .590061  | .590173  | .590284  | .590396  | 112  | 389  |
| 390  | .591065  | .591176  | .591287  | .591398  | .591510  | 111  | 390  |
| 391  | .592177  | .592288  | .592399  | .592510  | .592621  | 111  | 391  |
| 392  | .593286  | .593397  | .593508  | .593618  | .593729  | 111  | 392  |
| 393  | .594392  | .594503  | .594613  | .594724  | .594834  | 110  | 393  |
| 394  | .595496  | 2.595606 | 2.595717 | 2.595827 | 2.595937 | 110  | 394  |
| 395  | .596597  | .596707  | .596817  | .596927  | .597037  | 110  | 395  |
| 396  | .597695  | .597805  | .597914  | .598024  | .598134  | 110  | 396  |
| 397  | .598790  | .598900  | .599009  | .599119  | .599228  | 109  | 397  |
| 398  | .599883  | .599992  | .600101  | .600210  | .600319  | 109  | 398  |
| 399  | .600973  | .601082  | .601190  | .600299  | .601408  | 109  | 399  |
| 400  | 2.602060 | 2.602158 | 2.602277 | 2.602385 | 2.602494 | 108  | 400  |
| 401  | .603144  | .603253  | .603361  | .603469  | .603577  | 108  | 401  |
| 402  | .604226  | .604334  | .604442  | .604550  | .604658  | 108  | 402  |
| 403  | .605305  | .605413  | .605520  | .605628  | .605736  | 108  | 403  |
| 404  | .606381  | .606489  | .606596  | .606704  | .606811  | 107  | 404  |
| 405  | .607455  | .607562  | .607669  | .607777  | .607884  | 107  | 405  |
| 406  | .608526  | .608633  | .608740  | .608847  | .608954  | 107  | 406  |

from 1 to 10000.

| Num | 5        | 6        | 7        | 8        | 9        | 10  |
|-----|----------|----------|----------|----------|----------|-----|
| 370 | 2.568788 | 2.568905 | 2.569023 | 2.569140 | 2.569257 | 117 |
| 371 | .569959  | .570076  | .570193  | .570309  | .570426  | 117 |
| 372 | .571126  | .571243  | .571359  | .571476  | .571592  | 117 |
| 373 | .572291  | .572407  | .572523  | .572639  | .572755  | 116 |
| 374 | .573452  | .573568  | .573684  | .573800  | .573915  | 116 |
| 375 | .574610  | .574726  | .574841  | .574957  | .575072  | 116 |
| 376 | 2.575765 | 2.575880 | 2.575996 | 2.576111 | 2.576226 | 115 |
| 377 | .576917  | .577032  | .577147  | .577262  | .577377  | 115 |
| 378 | .578066  | .578181  | .578295  | .578410  | .578525  | 115 |
| 379 | .579212  | .579326  | .579441  | .579555  | .579669  | 114 |
| 380 | .580355  | .580469  | .580583  | .580697  | .580811  | 114 |
| 381 | .581495  | .581608  | .581722  | .581836  | .581950  | 114 |
| 382 | 2.582631 | 2.582745 | 2.582858 | 2.582972 | 2.583085 | 114 |
| 383 | .583765  | .583879  | .583992  | .584105  | .584218  | 113 |
| 384 | .584896  | .585009  | .585122  | .585235  | .585348  | 113 |
| 385 | .586024  | .586137  | .586250  | .586362  | .586475  | 113 |
| 386 | .587149  | .587262  | .587374  | .587486  | .587599  | 112 |
| 387 | .588272  | .588384  | .588496  | .588608  | .588720  | 112 |
| 388 | 2.589391 | 2.589503 | 2.589614 | 2.589726 | 2.589838 | 112 |
| 389 | .590507  | .590619  | .590730  | .590842  | .590953  | 112 |
| 390 | .591621  | .591732  | .591843  | .591955  | .592066  | 111 |
| 391 | .592732  | .592843  | .592954  | .593064  | .593175  | 111 |
| 392 | .593840  | .593950  | .594061  | .594171  | .594282  | 111 |
| 393 | .594945  | .595055  | .595165  | .595276  | .595386  | 110 |
| 394 | .596047  | 2.596157 | 2.596267 | 2.596377 | 2.596487 | 110 |
| 395 | .597146  | .597256  | .597366  | .597476  | .597585  | 110 |
| 396 | .598243  | .598353  | .598462  | .598572  | .598681  | 110 |
| 397 | .599337  | .599446  | .599556  | .599665  | .599774  | 109 |
| 398 | .600428  | .600537  | .600646  | .600755  | .600864  | 109 |
| 399 | .601517  | .601625  | .601734  | .601843  | .601951  | 109 |
| 400 | 2.602602 | 2.602711 | 2.602819 | 2.602928 | 2.603030 | 108 |
| 401 | .603685  | .603794  | .603902  | .604010  | .604118  | 108 |
| 402 | .604766  | .604874  | .604982  | .605090  | .605197  | 108 |
| 403 | .605843  | .605951  | .606059  | .606166  | .606274  | 108 |
| 404 | .606918  | .607026  | .607133  | .607240  | .607348  | 107 |
| 405 | .607991  | .608098  | .608205  | .608312  | .608419  | 107 |
| 406 | .609060  | .609167  | .609274  | .609381  | .609488  | 107 |

A Table of Logarithms

| Num. | 0        | 1        | 2        | 3        | 4        | Diff. | Num. |
|------|----------|----------|----------|----------|----------|-------|------|
| 407  | 2.609594 | 2.609701 | 2.609808 | 2.609914 | 2.610021 | 107   |      |
| 408  | .610660  | .610767  | .610873  | .610979  | .611086  | 106   | 407  |
| 409  | .611723  | .611829  | .611936  | .612042  | .612148  | 106   | 408  |
| 410  | .612784  | .612890  | .612996  | .613102  | .613207  | 106   | 409  |
| 411  | .613842  | .613947  | .614053  | .614159  | .614264  | 106   | 410  |
| 412  | .614897  | .615003  | .615108  | .615223  | .615329  | 105   | 411  |
| 413  | 2.615950 | 2.616055 | 2.616160 | 2.616265 | 2.616370 | 105   | 412  |
| 414  | .617000  | .617109  | .617210  | .617315  | .617420  | 105   | 413  |
| 415  | .618048  | .618153  | .618257  | .618362  | .618466  | 109   | 414  |
| 416  | .619093  | .619198  | .619302  | .619406  | .619511  | 104   | 415  |
| 417  | .620136  | .620240  | .620344  | .620448  | .620552  | 104   | 416  |
| 418  | .621176  | .621280  | .621384  | .621488  | .621592  | 104   | 417  |
| 419  | 2.622214 | 2.622318 | 2.622421 | 2.622525 | 2.622628 | 104   | 418  |
| 420  | .623249  | .623353  | .623456  | .623559  | .623663  | 10    | 419  |
| 421  | .624282  | .624385  | .624488  | .624591  | .624694  | 10    | 420  |
| 422  | .625312  | .625419  | .625518  | .625621  | .625724  | 10    | 421  |
| 423  | .626340  | .626443  | .626546  | .626648  | .626751  | 10    | 422  |
| 424  | .627366  | .627468  | .627571  | .627673  | .627775  | 10    | 423  |
| 425  | 2.628389 | 2.628491 | 2.628593 | 2.628695 | 2.628797 | 10    | 424  |
| 426  | .629410  | .629511  | .629613  | .629715  | .629817  | 10    | 425  |
| 427  | .630428  | .630529  | .630631  | .630733  | .630834  | 10    | 426  |
| 428  | .631444  | .631545  | .631647  | .631748  | .631849  | 10    | 427  |
| 429  | .632457  | .632558  | .632660  | .632761  | .632862  | 10    | 428  |
| 430  | .633468  | .633569  | .633670  | .633771  | .633872  | 1     | 429  |
| 431  | 2.634477 | 2.634578 | 2.634679 | 2.634779 | 2.634880 | 1     | 430  |
| 432  | .635484  | .635584  | .635685  | .635785  | .635886  | 1     | 431  |
| 433  | .636488  | .636588  | .636688  | .636789  | .636889  | 1     | 432  |
| 434  | .637480  | .637590  | .637690  | .637790  | .637890  | 1     | 433  |
| 435  | .638489  | .638589  | .638689  | .638789  | .638888  | 1     | 434  |
| 436  | .639486  | .639585  | .639686  | .639785  | .639885  | 1     | 435  |
| 437  | 2.640481 | 2.640581 | 2.640680 | 2.640779 | 2.640879 | 1     | 436  |
| 438  | .641474  | .641573  | .641672  | .641771  | .641870  | 1     | 437  |
| 439  | .642464  | .642563  | .642662  | .642761  | .642860  | 1     | 438  |
| 440  | .643453  | .643551  | .643650  | .643749  | .643847  | 1     | 439  |
| 441  | .644439  | .644537  | .644635  | .644734  | .644833  | 1     | 440  |
| 442  | .645422  | .645520  | .645619  | .645717  | .645815  | 1     | 441  |
| 443  | .646404  | .646502  | .646600  | .646698  | .646796  | 1     | 442  |

from 1 to 10000.

| Num. | 5        | 6        | 7        | 8        | 9        | Diff. |
|------|----------|----------|----------|----------|----------|-------|
| 407  | 2.610128 | 2.610234 | 2.610341 | 2.610447 | 2.610554 | 107   |
| 408  | .611192  | .611298  | .611405  | .611511  | .611617  | 106   |
| 409  | .612254  | .612360  | .612466  | .612572  | .612678  | 106   |
| 410  | .613313  | .613419  | .613525  | .613630  | .613736  | 106   |
| 411  | .614370  | .614475  | .614581  | .614686  | .614792  | 106   |
| 412  | .615424  | .615529  | .615634  | .615740  | .615845  | 105   |
| 413  | 2.616475 | 2.616580 | 2.616685 | 2.616790 | 2.616895 | 105   |
| 414  | .617524  | .617629  | .617734  | .617839  | .617943  | 105   |
| 415  | .618571  | .618675  | .618780  | .618884  | .618989  | 105   |
| 416  | .619615  | .619719  | .619823  | .619928  | .620032  | 104   |
| 417  | .620656  | .620760  | .620864  | .620968  | .621072  | 104   |
| 418  | .621695  | .621799  | .621903  | .622007  | .622110  | 104   |
| 419  | 2.622732 | 2.622835 | 2.622939 | 2.623042 | 2.623140 | 104   |
| 420  | .623706  | .623869  | .623972  | .624076  | .624179  | 103   |
| 421  | .624798  | .624901  | .625004  | .625107  | .625209  | 103   |
| 422  | .625827  | .625929  | .626032  | .626135  | .626238  | 103   |
| 423  | .626853  | .626956  | .627058  | .627161  | .627263  | 103   |
| 424  | .627878  | .627980  | .628082  | .628184  | .628287  | 102   |
| 425  | 2.628900 | 2.629002 | 2.629104 | 2.629206 | 2.629308 | 102   |
| 426  | .629919  | .630021  | .630123  | .630224  | .630326  | 102   |
| 427  | .630936  | .631038  | .631139  | .631241  | .631342  | 102   |
| 428  | .631951  | .632052  | .632153  | .632255  | .632356  | 101   |
| 429  | .632963  | .633064  | .633165  | .633266  | .633367  | 101   |
| 430  | .633973  | .634074  | .634175  | .634276  | .634376  | 100   |
| 431  | 2.634981 | 2.635081 | 2.635182 | 2.635283 | 2.635383 | 100   |
| 432  | .635986  | .636086  | .636187  | .636287  | .636388  | 100   |
| 433  | .636989  | .637089  | .637189  | .637289  | .637390  | 100   |
| 434  | .637990  | .638090  | .638190  | .638289  | .638389  | 99    |
| 435  | .638988  | .639088  | .639188  | .639287  | .639387  | 99    |
| 436  | .639984  | .640084  | .640183  | .640283  | .640382  | 99    |
| 437  | 2.640978 | 2.641077 | 2.641176 | 2.641276 | 2.641375 | 99    |
| 438  | .641970  | .642069  | .642168  | .642267  | .642366  | 99    |
| 439  | .642959  | .643058  | .643156  | .643255  | .643354  | 99    |
| 440  | .643946  | .644044  | .644143  | .644242  | .644340  | 98    |
| 441  | .644931  | .645029  | .645127  | .645226  | .645324  | 98    |
| 442  | .645913  | .646011  | .646109  | .646208  | .646306  | 98    |
| 443  | .646894  | .646991  | .647089  | .647187  | .647235  | 98    |

A T A B L E of Logarithms.

| Num. | 0        | 1        | 2        | 3        | 4        | Diff. | Num. |
|------|----------|----------|----------|----------|----------|-------|------|
| 444  | 2.647383 | 2.647481 | 2.647578 | 2.647676 | 2.647774 | 98    | 444  |
| 445  | .648360  | .648458  | .648555  | .648653  | .648750  | 97    | 445  |
| 446  | .649335  | .649432  | .649530  | .649627  | .649724  | 97    | 446  |
| 447  | .650307  | .650405  | .650502  | .650599  | .650696  | 97    | 447  |
| 448  | .651278  | .651375  | .651472  | .651569  | .651666  | 97    | 448  |
| 449  | .652246  | .652343  | .652440  | .652536  | .652633  | 97    | 449  |
| 450  | 2.653212 | 2.653309 | 2.653405 | 2.653502 | 2.653598 | 96    | 450  |
| 451  | .654176  | .654273  | .654369  | .654465  | .654562  | 96    | 451  |
| 452  | .655138  | .655234  | .655331  | .655427  | .655523  | 96    | 452  |
| 453  | .656098  | .656194  | .656290  | .656386  | .656481  | 96    | 453  |
| 454  | .657056  | .657151  | .657247  | .657343  | .657438  | 96    | 454  |
| 455  | .658011  | .658107  | .658202  | .658298  | .658393  | 95    | 455  |
| 456  | 2.658965 | 2.659060 | 2.659155 | 2.659250 | 2.659346 | 95    | 456  |
| 457  | .659916  | .660011  | .660106  | .660201  | .660296  | 95    | 457  |
| 458  | .660865  | .660960  | .661055  | .661150  | .661245  | 95    | 458  |
| 459  | .661813  | .661907  | .662002  | .662096  | .662191  | 95    | 459  |
| 460  | .662758  | .662852  | .662947  | .663041  | .663135  | 94    | 460  |
| 461  | .663701  | .663795  | .663889  | .663983  | .664078  | 94    | 461  |
| 462  | 2.664642 | 2.664736 | 2.664830 | 2.664924 | 2.665018 | 94    | 462  |
| 463  | .665581  | .665675  | .665768  | .665862  | .665956  | 94    | 463  |
| 464  | .666518  | .666612  | .666705  | .666799  | .666892  | 94    | 464  |
| 465  | .667453  | .667546  | .667640  | .667733  | .667826  | 93    | 465  |
| 466  | .668386  | .668479  | .668572  | .668665  | .668758  | 93    | 466  |
| 467  | .669317  | .669410  | .669503  | .669596  | .669689  | 93    | 467  |
| 468  | 2.670246 | 2.670339 | 2.670431 | 2.670524 | 2.670617 | 93    | 468  |
| 469  | .671173  | .671265  | .671358  | .671451  | .671543  | 93    | 469  |
| 470  | .672098  | .672190  | .672283  | .672375  | .672467  | 92    | 470  |
| 471  | .673021  | .673113  | .673205  | .673297  | .673390  | 92    | 471  |
| 472  | .673942  | .674034  | .674126  | .674218  | .674310  | 92    | 472  |
| 473  | .674861  | .674953  | .675045  | .675136  | .675228  | 92    | 473  |
| 474  | 2.675778 | 2.675870 | 2.675961 | 2.676053 | 2.676145 | 92    | 474  |
| 475  | .676694  | .676785  | .676876  | .676968  | .677059  | 91    | 475  |
| 476  | .677607  | .677698  | .677789  | .677881  | .677972  | 91    | 476  |
| 477  | .678518  | .678609  | .678700  | .678791  | .678882  | 91    | 477  |
| 478  | .679428  | .679519  | .679610  | .679700  | .679791  | 91    | 478  |
| 479  | .680335  | .680426  | .680517  | .680607  | .680698  | 91    | 479  |
| 480  | .681241  | .681332  | .681422  | .681513  | .681603  | 90    | 480  |

from 1 to 10000.

| Num. | 5        | 6        | 7        | 8        | 9        | Diff. |
|------|----------|----------|----------|----------|----------|-------|
| 444  | 2.647872 | 2.647909 | 2.648067 | 2.648165 | 2.648262 | 98    |
| 445  | .648848  | .648945  | .649043  | .649140  | .649237  | 97    |
| 446  | .649821  | .649919  | .650016  | .650113  | .650210  | 97    |
| 447  | .650793  | .650890  | .650987  | .651084  | .651181  | 97    |
| 448  | .651762  | .651859  | .651956  | .652053  | .652150  | 97    |
| 449  | .652730  | .652826  | .652923  | .653019  | .653116  | 97    |
| 450  | 2.653695 | 2.653791 | 2.653888 | 2.653984 | 2.654080 | 96    |
| 451  | .654658  | .654754  | .654850  | .654946  | .655042  | 96    |
| 452  | .655619  | .655714  | .655810  | .655906  | .656002  | 96    |
| 453  | .656577  | .656673  | .656769  | .656864  | .656960  | 96    |
| 454  | .657534  | .657629  | .657725  | .657820  | .657916  | 96    |
| 455  | .658488  | .658584  | .658679  | .658774  | .658870  | 95    |
| 456  | 2.659441 | 2.659536 | 2.659631 | 2.659726 | 2.659821 | 95    |
| 457  | .660391  | .660486  | .660581  | .660676  | .660771  | 95    |
| 458  | .661339  | .661434  | .661529  | .661623  | .661718  | 95    |
| 459  | .662285  | .662380  | .662474  | .662569  | .662663  | 95    |
| 460  | .663230  | .663324  | .663418  | .663512  | .663607  | 94    |
| 461  | .664172  | .664266  | .664360  | .664454  | .664548  | 94    |
| 462  | 2.665112 | 2.665206 | 2.665299 | .665393  | 2.665487 | 94    |
| 463  | .666050  | .666143  | .666237  | .666331  | .666424  | 94    |
| 464  | .666986  | .667079  | .667173  | .667266  | .667359  | 94    |
| 465  | .667920  | .668013  | .668106  | .668199  | .668293  | 93    |
| 466  | .668852  | .668945  | .669038  | .669131  | .669224  | 93    |
| 467  | .669782  | .669874  | .669967  | .670060  | .670153  | 93    |
| 468  | 2.670710 | 2.670802 | 2.670895 | 2.670988 | 2.671080 | 93    |
| 469  | .671636  | .671728  | .671821  | .671913  | .672005  | 93    |
| 470  | .672560  | .672652  | .672744  | .672836  | .672929  | 92    |
| 471  | .673482  | .673574  | .673666  | .673758  | .673850  | 92    |
| 472  | .674402  | .674494  | .674586  | .674677  | .674769  | 92    |
| 473  | .675320  | .675412  | .675503  | .675595  | .675687  | 92    |
| 474  | 2.676236 | 2.676328 | 2.676419 | 2.676511 | 2.676602 | 92    |
| 475  | .677150  | .677242  | .677333  | .677424  | .677516  | 91    |
| 476  | .678063  | .678154  | .678245  | .678336  | .678427  | 91    |
| 477  | .678973  | .679064  | .679155  | .679246  | .679337  | 91    |
| 478  | .679882  | .679973  | .680063  | .680154  | .680245  | 91    |
| 479  | .680789  | .680879  | .680970  | .681060  | .681151  | 91    |
| 480  | .681693  | .681784  | .681874  | .681964  | .682055  | 90    |

A Table of Logarithms

| Num. | 0        | 1        | 2        | 3        | 4        | Diff. |
|------|----------|----------|----------|----------|----------|-------|
| 481  | 2.682145 | 2.682235 | 2.682320 | 2.682416 | 2.682506 | 90    |
| 482  | .683047  | .683137  | .683227  | .683317  | .683407  | 90    |
| 483  | .683947  | .684037  | .684127  | .684217  | .684307  | 90    |
| 484  | .684845  | .684935  | .685025  | .685114  | .685204  | 90    |
| 485  | .685742  | .685831  | .685921  | .686010  | .686100  | 89    |
| 486  | .686636  | .686726  | .686815  | .686904  | .686994  | 89    |
| 487  | 2.687529 | 2.687618 | 2.687707 | 2.687796 | 2.687885 | 89    |
| 488  | .688420  | .688509  | .688598  | .688687  | .688776  | 89    |
| 489  | .689309  | .689398  | .689486  | .689575  | .689664  | 89    |
| 490  | .690196  | .690285  | .690373  | .690462  | .690550  | 89    |
| 491  | .691081  | .691170  | .691258  | .691347  | .691435  | 88    |
| 492  | .691064  | .692053  | .692142  | .692230  | .692318  | 88    |
| 493  | 2.692847 | 2.692935 | 2.693023 | 2.693111 | 2.693199 | 88    |
| 494  | .693727  | .693815  | .693903  | .693991  | .694078  | 88    |
| 495  | .694605  | .694693  | .694781  | .694868  | .694956  | 88    |
| 496  | .695482  | .695569  | .695657  | .695744  | .695832  | 87    |
| 497  | .696356  | .696444  | .696531  | .696618  | .696706  | 87    |
| 498  | .697229  | .697316  | .697404  | .697491  | .697578  | 87    |
| 499  | 2.698100 | 2.698188 | 2.698275 | 2.698362 | 2.698448 | 87    |
| 500  | .698970  | .699057  | .699144  | .699230  | .699317  | 87    |
| 501  | .699838  | .699924  | .700011  | .700098  | .700184  | 87    |
| 502  | .700704  | .700790  | .700877  | .700963  | .701050  | 86    |
| 503  | .701568  | .701654  | .701741  | .701827  | .701913  | 86    |
| 504  | .702430  | .702517  | .702603  | .702689  | .702775  | 86    |
| 505  | 2.703291 | 2.703377 | 2.703463 | 2.703549 | 2.703635 | 86    |
| 506  | .704150  | .704236  | .704322  | .704408  | .704494  | 86    |
| 507  | .705008  | .705094  | .705179  | .705265  | .705350  | 86    |
| 508  | .705864  | .705949  | .706035  | .706120  | .706205  | 85    |
| 509  | .706718  | .706803  | .706888  | .706974  | .707059  | 85    |
| 510  | .707570  | .707655  | .707740  | .707826  | .707911  | 85    |
| 511  | 2.708421 | 2.708506 | 2.708591 | 2.708676 | 2.708761 | 85    |
| 512  | .709270  | .709355  | .709440  | .709524  | .709609  | 85    |
| 513  | .710117  | .710202  | .710287  | .710371  | .710456  | 85    |
| 514  | .710963  | .711048  | .711132  | .711216  | .711301  | 84    |
| 515  | .711807  | .711891  | .711976  | .712060  | .712144  | 84    |
| 516  | .712650  | .712734  | .712818  | .712902  | .712986  | 84    |
| 517  | .713490  | .713574  | .713658  | .713742  | .713836  | 84    |

from 1 to 10000.

| No. | 5        | 6        | 7        | 8        | 9        | Dif. |
|-----|----------|----------|----------|----------|----------|------|
| 481 | 2.682590 | 2.682686 | 2.682777 | 2.682867 | 2.682957 | 90   |
| 482 | .683497  | .683587  | .683677  | .683767  | .683857  | 90   |
| 483 | .684396  | .684486  | .684576  | .684666  | .684756  | 90   |
| 484 | .685294  | .685383  | .685473  | .685563  | .685652  | 90   |
| 485 | .686185  | .686279  | .686368  | .686457  | .686547  | 89   |
| 486 | .687083  | .687172  | .687261  | .687351  | .687440  | 89   |
| 487 | 2.687975 | 2.688064 | 2.688153 | 2.688242 | 2.688331 | 89   |
| 488 | .688865  | .688953  | .689042  | .689131  | .689220  | 89   |
| 489 | .689753  | .689841  | .689930  | .690019  | .690107  | 89   |
| 490 | .690639  | .690727  | .690816  | .690905  | .690993  | 89   |
| 491 | .691523  | .691612  | .691700  | .691788  | .691877  | 88   |
| 492 | .692406  | .692494  | .692583  | .692671  | .692759  | 88   |
| 493 | 2.693287 | 2.693375 | 2.693463 | 2.693551 | 2.693639 | 88   |
| 494 | .694166  | .694254  | .694343  | .694430  | .694517  | 88   |
| 495 | .695044  | .695131  | .695219  | .695306  | .695394  | 88   |
| 496 | .695919  | .696007  | .696094  | .696182  | .696269  | 87   |
| 497 | .696793  | .696880  | .696968  | .697055  | .697142  | 87   |
| 498 | .697665  | .697752  | .697839  | .697926  | .698013  | 87   |
| 499 | 2.698535 | 2.698622 | 2.698709 | 2.698796 | 2.698883 | 87   |
| 500 | .699404  | .699491  | .699578  | .699664  | .699751  | 87   |
| 501 | .700271  | .700357  | .700444  | .700531  | .700617  | 87   |
| 502 | .701136  | .701222  | .701309  | .701395  | .701482  | 86   |
| 503 | .701999  | .702086  | .702172  | .702258  | .702344  | 86   |
| 504 | .702861  | .702947  | .703033  | .703119  | .703205  | 86   |
| 505 | 2.703721 | 2.703807 | 2.703893 | 2.703979 | 2.704065 | 86   |
| 506 | .704579  | .704665  | .704751  | .704837  | .704922  | 86   |
| 507 | .705436  | .705522  | .705607  | .705693  | .705778  | 86   |
| 508 | .706291  | .706376  | .706462  | .706547  | .706632  | 85   |
| 509 | .707144  | .707229  | .707315  | .707400  | .707485  | 85   |
| 510 | .707996  | .708081  | .708166  | .708251  | .708336  | 85   |
| 511 | 2.708846 | 2.708931 | 2.709015 | 2.709100 | 2.709185 | 85   |
| 512 | .709594  | .709679  | .709863  | .709948  | .710033  | 85   |
| 513 | .710540  | .710625  | .710710  | .710794  | .710879  | 85   |
| 514 | .711385  | .711470  | .711554  | .711638  | .711723  | 84   |
| 515 | .712229  | .712313  | .712397  | .712481  | .712565  | 84   |
| 516 | .713070  | .713154  | .713238  | .713322  | .713406  | 84   |
| 517 | .713910  | .713994  | .714078  | .714162  | .714246  | 84   |

A Table of Logarithms

| N <sup>o</sup> | 0        | 1        | 2        | 3        | 4        | Dif. |
|----------------|----------|----------|----------|----------|----------|------|
| 518            | 2.714330 | 2.714414 | 2.714497 | 2.714581 | 2.714665 | 8    |
| 519            | .715167  | .715251  | .715335  | .715418  | .715502  | 8    |
| 520            | .716003  | .716087  | .716170  | .716254  | .716337  | 8    |
| 521            | .716838  | .716921  | .717004  | .717088  | .717171  | 8    |
| 522            | .717670  | .717754  | .717837  | .717920  | .718003  | 8    |
| 523            | .718502  | .718585  | .718668  | .718751  | .718834  | 8    |
| 524            | 2.719331 | 2.719414 | 2.719497 | 2.719580 | 2.719663 | 8    |
| 525            | .720159  | .720242  | .720325  | .720407  | .720490  | 8    |
| 526            | .720986  | .721068  | .721151  | .721233  | .721316  | 8    |
| 527            | .721811  | .721893  | .721975  | .722058  | .722140  | 8    |
| 528            | .722634  | .722716  | .722798  | .722881  | .722963  | 8    |
| 529            | .723456  | .723538  | .723620  | .723702  | .723784  | 8    |
| 530            | 2.724276 | 2.724358 | 2.724440 | 2.724522 | 2.724603 | 8    |
| 531            | .725094  | .725176  | .725258  | .725340  | .725421  | 8    |
| 532            | .725912  | .725993  | .726075  | .726156  | .726238  | 8    |
| 533            | .726727  | .726809  | .726890  | .726972  | .727053  | 8    |
| 534            | .727541  | .727623  | .727704  | .727785  | .727866  | 8    |
| 535            | .728354  | .728435  | .728516  | .728597  | .728678  | 8    |
| 536            | .729165  | 2.729246 | 2.729327 | 2.729408 | 2.729489 | 8    |
| 537            | .729974  | .730055  | .730136  | .730217  | .730298  | 8    |
| 538            | .730782  | .730863  | .730944  | .731024  | .731105  | 8    |
| 539            | .731589  | .731669  | .731750  | .731830  | .731911  | 8    |
| 540            | .732394  | .732474  | .732555  | .732635  | .732715  | 8    |
| 541            | .733197  | .733277  | .733358  | .733438  | .733518  | 8    |
| 542            | 3.733999 | 2.734079 | 2.734159 | 2.734240 | 2.734320 | 8    |
| 543            | .734809  | .734880  | .734960  | .735040  | .735120  | 8    |
| 544            | .735599  | .735679  | .735758  | .735838  | .735918  | 8    |
| 545            | .736396  | .736476  | .736556  | .736635  | .736715  | 8    |
| 546            | .737193  | .737272  | .737352  | .737431  | .737511  | 7    |
| 547            | .737987  | .738067  | .738146  | .738225  | .738305  | 7    |
| 548            | 2.738781 | 2.738860 | 2.738939 | 2.739018 | 2.739097 | 7    |
| 549            | .739572  | .739651  | .739730  | .739810  | .739889  | 7    |
| 550            | .740363  | .740442  | .740521  | .740599  | .740678  | 7    |
| 551            | .741152  | .741230  | .741309  | .741388  | .741467  | 7    |
| 552            | .741939  | .742018  | .742096  | .742175  | .742254  | 7    |
| 553            | .742725  | .742804  | .742882  | .742961  | .743039  | 7    |
| 554            | .743510  | .743588  | .743666  | .743745  | .743823  | 7    |

## from 1 to 10000.

| Diff | Num. | 5        | 6        | 7        | 8        | 9        | Diff |
|------|------|----------|----------|----------|----------|----------|------|
| 8    | 518  | 2.714749 | 2.714832 | 2.714916 | 2.715000 | 2.715084 | 84   |
| 8    | 519  | .715586  | .715669  | .715753  | .715836  | .715920  | 84   |
| 8    | 520  | .716421  | .716504  | .716588  | .716671  | .716754  | 83   |
| 8    | 521  | .717254  | .717338  | .717421  | .717504  | .717587  | 83   |
| 8    | 522  | .718086  | .718169  | .718253  | .718336  | .718419  | 83   |
| 8    | 523  | .718917  | .719000  | .719083  | .719165  | .719248  | 83   |
| 8    | 524  | 2.719745 | 2.719828 | 2.719911 | 2.719994 | 2.720077 | 83   |
| 8    | 525  | .720573  | .720655  | .720738  | .720821  | .720903  | 83   |
| 8    | 526  | .721398  | .721481  | .721563  | .721646  | .721728  | 82   |
| 8    | 527  | .722222  | .722305  | .722387  | .722469  | .722552  | 82   |
| 8    | 528  | .723045  | .723127  | .723209  | .723291  | .723374  | 82   |
| 8    | 529  | .723866  | .723948  | .724030  | .724112  | .724194  | 82   |
| 8    | 530  | 2.724685 | 2.724767 | 2.724849 | 2.724931 | 2.725013 | 82   |
| 8    | 531  | .725503  | .725585  | .725667  | .725748  | .725830  | 82   |
| 8    | 532  | .726320  | .726401  | .726483  | .726564  | .726646  | 82   |
| 8    | 533  | .727134  | .727216  | .727297  | .727379  | .727460  | 81   |
| 8    | 534  | .727948  | .728029  | .728110  | .728191  | .728273  | 81   |
| 8    | 535  | .728759  | .728841  | .728922  | .729003  | .729084  | 81   |
| 8    | 536  | 2.729570 | 2.729651 | 2.729732 | 2.729813 | 2.729893 | 81   |
| 8    | 537  | .730378  | .730459  | .730540  | .730621  | .730702  | 81   |
| 8    | 538  | .731186  | .731266  | .731347  | .731428  | .731508  | 81   |
| 8    | 539  | .731991  | .732072  | .732152  | .732233  | .732313  | 81   |
| 8    | 540  | .732796  | .732876  | .732956  | .733037  | .733117  | 80   |
| 8    | 541  | .733598  | .733679  | .733759  | .733839  | .733919  | 80   |
| 8    | 542  | 2.734400 | 2.734480 | 2.734560 | 2.734640 | 2.734720 | 80   |
| 8    | 543  | .735200  | .735279  | .735359  | .735439  | .735519  | 80   |
| 8    | 544  | .735998  | .736078  | .736157  | .736237  | .736317  | 80   |
| 8    | 545  | .736795  | .736874  | .736954  | .737034  | .737113  | 80   |
| 7    | 546  | .737590  | .737670  | .737749  | .737829  | .737909  | 79   |
| 7    | 547  | .738384  | .738463  | .738543  | .738622  | .738701  | 79   |
| 7    | 548  | 2.739177 | 2.739256 | 2.739335 | 2.739414 | 2.739497 | 79   |
| 7    | 549  | .739958  | .740047  | .740126  | .740205  | .740284  | 79   |
| 7    | 550  | .740757  | .740836  | .740915  | .740994  | .741073  | 79   |
| 7    | 551  | .741546  | .741624  | .741703  | .741782  | .741860  | 79   |
| 7    | 552  | .742332  | .742411  | .742489  | .742568  | .742647  | 79   |
| 7    | 553  | .743118  | .743196  | .743275  | .743353  | .743431  | 78   |
| 7    | 554  | .743902  | .743980  | .744058  | .744136  | .744215  | 78   |

A Table of Logarithms.

| Num. | 0        | 1        | 2        | 3        | 4        | Num. |
|------|----------|----------|----------|----------|----------|------|
| 555  | 2.744293 | 2.744371 | 2.744449 | 2.744528 | 2.744606 | 78   |
| 556  | .745075  | .745153  | .745231  | .745309  | .745387  | 78   |
| 557  | .745855  | .745933  | .746011  | .746089  | .746167  | 78   |
| 558  | .746634  | .746712  | .746790  | .746868  | .746945  | 78   |
| 559  | .747412  | .747489  | .747567  | .747645  | .747722  | 78   |
| 560  | .748188  | .748266  | .748343  | .748421  | .748498  | 77   |
| 561  | 2.748963 | 2.749040 | 2.749118 | 2.749195 | 2.749272 | 77   |
| 562  | .749736  | .749814  | .749891  | .749968  | .750045  | 77   |
| 563  | .750508  | .750586  | .750663  | .750740  | .750817  | 77   |
| 564  | .751279  | .751356  | .751433  | .751510  | .751587  | 77   |
| 565  | .752048  | .752125  | .752202  | .752279  | .752356  | 77   |
| 566  | .752816  | .752893  | .752970  | .753047  | .753123  | 77   |
| 567  | 2.753583 | 2.753660 | 2.753736 | 2.753813 | 2.753899 | 77   |
| 568  | .754348  | .754425  | .754501  | .754578  | .754654  | 76   |
| 569  | .755112  | .755189  | .755265  | .755341  | .755417  | 76   |
| 570  | .755875  | .755951  | .756027  | .756103  | .756180  | 76   |
| 571  | .756636  | .756712  | .756788  | .756864  | .756940  | 76   |
| 572  | .757396  | .757472  | .757548  | .757624  | .757700  | 76   |
| 573  | 2.758155 | 2.758230 | 2.758306 | 2.758382 | 2.758458 | 76   |
| 574  | .758912  | .758988  | .759063  | .759139  | .759214  | 76   |
| 575  | .759668  | .759743  | .759818  | .759894  | .759970  | 75   |
| 576  | .760422  | .760498  | .760573  | .760649  | .760724  | 75   |
| 577  | .761176  | .761251  | .761326  | .761402  | .761477  | 75   |
| 578  | .761928  | .762003  | .762078  | .762153  | .762228  | 75   |
| 579  | 2.762679 | 2.762754 | 2.762829 | 2.762904 | 2.762978 | 75   |
| 580  | .763428  | .763503  | .763578  | .763653  | .763727  | 75   |
| 581  | .764176  | .764251  | .764326  | .764400  | .764475  | 75   |
| 582  | .764923  | .764998  | .765073  | .765147  | .765221  | 75   |
| 583  | .765669  | .765743  | .765818  | .765892  | .765966  | 74   |
| 584  | .766413  | .766487  | .766562  | .766636  | .766710  | 74   |
| 585  | 2.767156 | 2.767230 | 2.767304 | 2.767379 | 2.767453 | 74   |
| 586  | .767898  | .767972  | .768046  | .768120  | .768194  | 74   |
| 587  | .768638  | .768712  | .768786  | .768860  | .768934  | 74   |
| 588  | .769377  | .769451  | .769525  | .769599  | .769673  | 74   |
| 589  | .770115  | .770189  | .770263  | .770336  | .770410  | 74   |
| 590  | .770852  | .770926  | .770999  | .771073  | .771146  | 74   |
| 591  | .771587  | .771661  | .771734  | .771808  | .771881  | 73   |

from 1 to 10000.

| Num. | 5        | 6        | 7        | 8        | 9        | Diff. |
|------|----------|----------|----------|----------|----------|-------|
| 555  | 2.744684 | 2.744762 | 2.744840 | 2.744919 | 2.744997 | 78    |
| 556  | .745465  | .745543  | .745621  | .745699  | .745777  | 78    |
| 557  | .746245  | .746323  | .746401  | .746479  | .746556  | 78    |
| 558  | .747023  | .747101  | .747179  | .747256  | .747334  | 78    |
| 559  | .747800  | .747878  | .747955  | .748033  | .748110  | 78    |
| 560  | .748576  | .748653  | .748731  | .748808  | .748885  | 77    |
| 561  | 2.749350 | 2.749427 | 2.749504 | 2.749582 | 2.749659 | 77    |
| 562  | .750123  | .750200  | .750277  | .750354  | .750431  | 77    |
| 563  | .750894  | .750971  | .751048  | .751125  | .751202  | 77    |
| 564  | .751664  | .751741  | .751818  | .751895  | .751972  | 77    |
| 565  | .752433  | .752509  | .752586  | .752663  | .752740  | 77    |
| 566  | .753200  | .753277  | .753353  | .753430  | .753506  | 77    |
| 567  | 2.753966 | 2.754042 | 2.754118 | 2.754195 | .754272  | 77    |
| 568  | .754730  | .754807  | .754883  | .754960  | .755036  | 76    |
| 569  | .755494  | .755570  | .755646  | .755722  | .755799  | 76    |
| 570  | .756256  | .756332  | .756407  | .756484  | .756560  | 76    |
| 571  | .757016  | .757092  | .757168  | .757244  | .757320  | 76    |
| 572  | .757775  | .757851  | .757927  | .758002  | .758079  | 75    |
| 573  | 2.758533 | 2.758609 | 2.758685 | 2.758761 | 2.758836 | 76    |
| 574  | .759290  | .759366  | .759441  | .759517  | .759592  | 76    |
| 575  | .760045  | .760121  | .760196  | .760272  | .760347  | 75    |
| 576  | .760799  | .760875  | .760950  | .761025  | .761101  | 75    |
| 577  | .761552  | .761627  | .761702  | .761778  | .761853  | 75    |
| 578  | .762202  | .762378  | .762453  | .762529  | .762604  | 75    |
| 579  | 2.763053 | 2.763128 | 2.763203 | 2.763278 | .763353  | 75    |
| 580  | .763802  | .763877  | .763952  | .764027  | .764101  | 75    |
| 581  | .764550  | .764624  | .764699  | .764774  | .764848  | 75    |
| 582  | .765295  | .765370  | .765445  | .765520  | .765594  | 75    |
| 583  | .766041  | .766115  | .766190  | .766264  | .766338  | 74    |
| 584  | .766785  | .766859  | .766933  | .767007  | .767082  | 74    |
| 585  | 2.767527 | 2.767601 | 2.767675 | 2.767749 | 2.767823 | 74    |
| 586  | .768268  | .768342  | .768416  | .768490  | .768564  | 74    |
| 587  | .769008  | .769082  | .769156  | .769230  | .769303  | 74    |
| 588  | .769745  | .769820  | .769894  | .769968  | .770042  | 74    |
| 589  | .770484  | .770557  | .770631  | .770705  | .770778  | 74    |
| 590  | .771220  | .771293  | .771367  | .771440  | .771514  | 74    |
| 591  | .771955  | .772028  | .772102  | .772175  | .772248  | 73    |

A Table of Logarithms

| Num. | 0        | 1        | 2        | 3        | 4        | Dif. |
|------|----------|----------|----------|----------|----------|------|
| 592  | 2.772322 | 2.772395 | 2.772468 | 2.772542 | 2.772615 | 73   |
| 593  | .773055  | .773128  | .773201  | .773274  | .773348  | 73   |
| 594  | .773786  | .773860  | .773933  | .774006  | .774079  | 73   |
| 595  | .774517  | .774590  | .774663  | .774736  | .774809  | 73   |
| 596  | .775246  | .775919  | .775392  | .775465  | .775538  | 73   |
| 597  | .775974  | .776047  | .776120  | .776192  | .776265  | 73   |
| 598  | .776701  | 2.776774 | 2.776846 | 2.776919 | 2.776992 | 73   |
| 599  | .777427  | .777499  | .777572  | .777644  | .777717  | 72   |
| 600  | .778151  | .778224  | .778296  | .778368  | .778441  | 72   |
| 601  | .778874  | .778947  | .779019  | .779091  | .779163  | 72   |
| 602  | .779596  | .779669  | .779741  | .779813  | .779885  | 72   |
| 603  | .780317  | .780389  | .780461  | .780533  | .780605  | 72   |
| 604  | 2.781037 | .781109  | 2.781181 | 2.781253 | 2.781324 | 72   |
| 605  | .781755  | .781827  | .781899  | .781971  | .782042  | 72   |
| 606  | .782473  | .782544  | .782616  | .782688  | .782759  | 72   |
| 607  | .783189  | .783260  | .783332  | .783403  | .783475  | 71   |
| 608  | .783904  | .783975  | .784046  | .784118  | .784189  | 71   |
| 609  | .784617  | .784689  | .784760  | .784831  | .784902  | 71   |
| 610  | 2.785330 | .785401  | 2.785472 | 2.785543 | 2.785615 | 71   |
| 611  | .786041  | .786112  | .786183  | .786254  | .786325  | 71   |
| 612  | .785751  | .786822  | .786893  | .786964  | .787035  | 71   |
| 613  | .787460  | .787531  | .787602  | .787673  | .787744  | 71   |
| 614  | .788168  | .788239  | .788310  | .788381  | .788451  | 71   |
| 615  | .788875  | .788946  | .789016  | .789087  | .789157  | 71   |
| 616  | .789581  | .789651  | 2.789722 | 2.789792 | 2.789863 | 70   |
| 617  | .790285  | .790356  | .790426  | .790496  | .790567  | 70   |
| 618  | .790988  | .791059  | .791129  | .791199  | .791269  | 70   |
| 619  | .791691  | .791761  | .791831  | .791901  | .791971  | 70   |
| 620  | .792392  | .792462  | .792532  | .792602  | .792672  | 70   |
| 621  | .793092  | .793162  | .793231  | .793301  | .793371  | 70   |
| 622  | 2.793790 | 2.793860 | 2.793930 | 2.794000 | 2.794070 | 70   |
| 623  | .794488  | .794558  | .794627  | .794697  | .794767  | 70   |
| 624  | .795185  | .795254  | .795324  | .795393  | .795463  | 69   |
| 625  | .795880  | .795949  | .796019  | .796088  | .796158  | 69   |
| 626  | .796571  | .796644  | .796713  | .796782  | .796852  | 69   |
| 627  | .797268  | .797337  | .797405  | .797475  | .797545  | 69   |
| 628  | .797950  | .798029  | .798098  | .798167  | .798236  | 69   |

from 1 to 10000.

| Num. | 5        | 6        | 7        | 8        | 9        | Diff. |
|------|----------|----------|----------|----------|----------|-------|
| 592  | 2.772688 | 2.772762 | 2.772835 | 2.772908 | 2.772981 | 73    |
| 593  | .773421  | .773494  | .773567  | .773640  | .773713  | 73    |
| 594  | .774152  | .774225  | .774298  | .774371  | .774444  | 73    |
| 595  | .774882  | .774955  | .775028  | .775100  | .775173  | 73    |
| 596  | .775610  | .775683  | .775756  | .775829  | .775902  | 73    |
| 597  | .776338  | .776411  | .776483  | .776556  | .776629  | 73    |
| 598  | 2.777064 | 2.777137 | 2.777209 | 2.777282 | 2.777354 | 73    |
| 599  | .777789  | .777862  | .777934  | .778006  | .778079  | 72    |
| 600  | .778513  | .778585  | .778658  | .778730  | .778802  | 72    |
| 601  | .779236  | .779308  | .779380  | .779452  | .779524  | 72    |
| 602  | .779957  | .780029  | .780101  | .780173  | .780245  | 72    |
| 603  | .780677  | .780749  | .780821  | .780893  | .780965  | 72    |
| 604  | 2.781396 | 2.781468 | 2.781540 | 2.781612 | 2.781684 | 72    |
| 605  | .782114  | .782186  | .782258  | .782329  | .782401  | 72    |
| 606  | .782831  | .782902  | .782974  | .783046  | .783117  | 72    |
| 607  | .783546  | .783618  | .783689  | .783761  | .783832  | 71    |
| 608  | .784261  | .784332  | .784403  | .784475  | .784546  | 71    |
| 609  | .784974  | .785045  | .785116  | .785187  | .785259  | 71    |
| 610  | 2.785686 | 2.785757 | 2.785828 | 2.785899 | 2.785970 | 71    |
| 611  | .786396  | .786467  | .786538  | .786609  | .786680  | 71    |
| 612  | .787106  | .787177  | .787248  | .787319  | .787390  | 71    |
| 613  | .787815  | .787885  | .787956  | .788027  | .788098  | 71    |
| 614  | .788522  | .788593  | .788663  | .788734  | .788804  | 71    |
| 615  | .789228  | .789299  | .789369  | .789440  | .789510  | 71    |
| 616  | 2.789933 | 2.790003 | 2.790074 | 2.790144 | 2.790215 | 70    |
| 617  | .790637  | .790707  | .790778  | .790848  | .790918  | 70    |
| 618  | .791340  | .791410  | .791480  | .791550  | .791620  | 70    |
| 619  | .792041  | .792111  | .792181  | .792252  | .792322  | 70    |
| 620  | .792742  | .792812  | .792882  | .792952  | .793022  | 70    |
| 621  | .793441  | .793511  | .793581  | .793651  | .793721  | 70    |
| 622  | 2.794139 | 2.794209 | 2.794279 | 2.794349 | 2.794418 | 70    |
| 623  | .794836  | .794906  | .794976  | .795045  | .795115  | 70    |
| 624  | .795532  | .795602  | .795671  | .795741  | .795810  | 70    |
| 625  | .796227  | .796297  | .796366  | .796436  | .796505  | 69    |
| 626  | .796921  | .796990  | .797060  | .797129  | .797198  | 69    |
| 627  | .797614  | .797683  | .797752  | .797821  | .797890  | 69    |
| 628  | .798305  | .798374  | .798443  | .798512  | .798581  | 69    |

A Table of Logarithms.

| Num. | 0        | 1        | 2        | 3        | 4        | Diff. |
|------|----------|----------|----------|----------|----------|-------|
| 629  | 2.798651 | 2.798720 | 2.798789 | 2.798858 | 2.798927 | 69    |
| 630  | .799341  | .799409  | .799478  | .799547  | .799616  | 69    |
| 631  | .800029  | .800098  | .800167  | .800236  | .800305  | 69    |
| 632  | .800717  | .800786  | .800854  | .800923  | .800992  | 69    |
| 633  | .801404  | .801472  | .801541  | .801609  | .801678  | 69    |
| 634  | .802089  | .802158  | .802226  | .802295  | .802363  | 68    |
| 635  | 2.802774 | 2.802842 | 2.802910 | 2.802979 | 2.803047 | 68    |
| 636  | .803457  | .803525  | .803594  | .803662  | .803730  | 68    |
| 637  | .804139  | .804208  | .804276  | .804344  | .804412  | 68    |
| 638  | .804821  | .804889  | .804957  | .805025  | .805093  | 68    |
| 639  | .805501  | .805569  | .805637  | .805705  | .805773  | 68    |
| 640  | .806180  | .806249  | .806316  | .806384  | .806451  | 68    |
| 641  | 2.806858 | 2.806920 | 2.806994 | 2.807061 | 2.807129 | 68    |
| 642  | .807535  | .807603  | .807670  | .807738  | .807806  | 68    |
| 643  | .808211  | .808279  | .808346  | .808414  | .808481  | 67    |
| 644  | .808886  | .808953  | .809021  | .809088  | .809155  | 67    |
| 645  | .809560  | .809627  | .809694  | .809762  | .809829  | 67    |
| 646  | .810232  | .810300  | .810367  | .810434  | .810501  | 67    |
| 647  | 2.810904 | 2.810971 | 2.811038 | 2.811100 | 2.811173 | 67    |
| 648  | .811575  | .811642  | .811709  | .811776  | .811843  | 67    |
| 649  | .812245  | .812312  | .812378  | .812445  | .812512  | 67    |
| 650  | .812913  | .812980  | .813047  | .813114  | .813180  | 67    |
| 651  | .813581  | .813648  | .813714  | .813781  | .813848  | 67    |
| 652  | .814248  | .814314  | .814381  | .814447  | .814514  | 67    |
| 653  | 2.814913 | 2.814980 | 2.815040 | 2.815113 | 2.815179 | 66    |
| 654  | .815578  | .815644  | .815710  | .815777  | .815843  | 66    |
| 655  | .816241  | .816308  | .816374  | .816440  | .816506  | 66    |
| 656  | .816904  | .816970  | .817036  | .817102  | .817169  | 66    |
| 657  | .817555  | .817631  | .817698  | .817764  | .817830  | 66    |
| 658  | .818226  | .818292  | .818358  | .818424  | .818490  | 66    |
| 659  | 2.818885 | 2.818951 | 2.819017 | 2.819083 | 2.819149 | 66    |
| 660  | .819544  | .819610  | .819675  | .819741  | .819807  | 66    |
| 661  | .820201  | .820267  | .820333  | .820398  | .820464  | 66    |
| 662  | .820858  | .820924  | .820989  | .821055  | .821120  | 66    |
| 663  | .821513  | .821579  | .821644  | .821710  | .821775  | 65    |
| 664  | .822168  | .822233  | .822299  | .822364  | .822430  | 65    |
| 665  | .822822  | .822887  | .822952  | .823017  | .823082  | 65    |

from 1 to 10000.

| Num. | 5        | 6        | 7        | 8        | 9        | 10 |
|------|----------|----------|----------|----------|----------|----|
| 629  | .798996  | .799065  | .799134  | .799203  | .799272  | 69 |
| 630  | .799685  | .799754  | .799823  | .799891  | .799960  | 69 |
| 631  | .800373  | .800442  | .800511  | .800580  | .800648  | 69 |
| 632  | .801060  | .801129  | .801198  | .801267  | .801335  | 69 |
| 633  | .801787  | .801815  | .801844  | .801952  | .802021  | 69 |
| 634  | .802432  | .802500  | .802568  | .802637  | .802705  | 68 |
| 635  | .803116  | .803184  | .803252  | .803321  | .803389  | 68 |
| 636  | .803798  | .803867  | .803935  | .804003  | .804071  | 68 |
| 637  | .804480  | .804548  | .804616  | .804685  | .804753  | 68 |
| 638  | .805161  | .805229  | .805297  | .805365  | .805433  | 68 |
| 639  | .805840  | .805908  | .805976  | .806044  | .806112  | 68 |
| 640  | .806519  | .806587  | .806655  | .806723  | .806790  | 68 |
| 641  | 2.807197 | 2.807264 | 2.807332 | 2.807400 | 2.807467 | 68 |
| 642  | .807873  | .807941  | .808008  | .808076  | .808143  | 68 |
| 643  | .808548  | .808616  | .808683  | .808751  | .808818  | 67 |
| 644  | .809223  | .809290  | .809358  | .809425  | .809492  | 67 |
| 645  | .809896  | .809963  | .810031  | .810098  | .810165  | 67 |
| 646  | .810568  | .810636  | .810703  | .810770  | .810837  | 67 |
| 647  | 2.811240 | 2.811307 | 2.811374 | 2.811441 | 2.811508 | 67 |
| 648  | .811910  | .811977  | .812044  | .812111  | .812178  | 67 |
| 649  | .812579  | .812646  | .812713  | .812780  | .812846  | 67 |
| 650  | .813247  | .813314  | .813381  | .813447  | .813514  | 67 |
| 651  | .813914  | .813981  | .814048  | .814114  | .814181  | 67 |
| 652  | .814580  | .814647  | .814714  | .814780  | .814847  | 67 |
| 653  | 2.815246 | 2.815312 | 2.815378 | 2.815445 | 2.815511 | 66 |
| 654  | .815910  | .815976  | .816042  | .816109  | .816175  | 66 |
| 655  | .816573  | .816639  | .816705  | .816771  | .816838  | 66 |
| 656  | .817235  | .817301  | .817367  | .817433  | .817499  | 66 |
| 657  | .817896  | .817962  | .818028  | .818094  | .818160  | 66 |
| 658  | .818556  | .818622  | .818688  | .818754  | .818810  | 66 |
| 659  | 2.819215 | 2.819281 | 2.819346 | 2.819412 | 2.819478 | 66 |
| 660  | .819873  | .819939  | .820004  | .820070  | .820136  | 66 |
| 661  | .820530  | .820595  | .820661  | .820727  | .820793  | 66 |
| 662  | .821186  | .821251  | .821317  | .821382  | .821448  | 66 |
| 663  | .821841  | .821906  | .821972  | .822037  | .822103  | 65 |
| 664  | .822495  | .822560  | .822626  | .822691  | .822756  | 65 |
| 665  | .823148  | .823213  | .823279  | .823344  | .823409  | 65 |

A Table of Logarithms,

| Num. | 0        | 1        | 2        | 3        | 4        | Dif. |
|------|----------|----------|----------|----------|----------|------|
| 666  | 2.823474 | 2.823539 | 2.823605 | 2.823670 | 2.823735 | 65   |
| 667  | .824126  | .824191  | .824250  | .824321  | .824386  | 66   |
| 668  | .824776  | .824841  | .824906  | .824971  | .825036  | 65   |
| 669  | .825426  | .825491  | .825556  | .825621  | .825686  | 65   |
| 670  | .826075  | .826140  | .826204  | .826269  | .826334  | 65   |
| 671  | .826722  | .826787  | .826852  | .826917  | .826981  | 65   |
| 672  | 2.827369 | 2.827434 | 2.827498 | 2.827563 | 2.827628 | 67   |
| 673  | .828015  | .828080  | .828144  | .828209  | .828278  | 67   |
| 674  | .828660  | .828724  | .828789  | .828853  | .828918  | 67   |
| 675  | .829304  | .829368  | .829432  | .829497  | .829561  | 67   |
| 676  | .829947  | .830011  | .830075  | .830139  | .830204  | 67   |
| 677  | .830589  | .830653  | .830717  | .830781  | .830845  | 67   |
| 678  | 2.831230 | 2.831294 | 2.831358 | 2.831422 | 2.831486 | 68   |
| 679  | .831870  | .831934  | .831998  | .832062  | .832125  | 68   |
| 680  | .832509  | .832573  | .832637  | .832700  | .832764  | 68   |
| 681  | .833147  | .833211  | .833275  | .833338  | .833402  | 68   |
| 682  | .833784  | .833848  | .833912  | .833975  | .834039  | 68   |
| 683  | .834421  | .834484  | .834548  | .834611  | .834671  | 68   |
| 684  | .835056  | 2.835120 | 2.835183 | 2.835246 | 2.835310 | 69   |
| 685  | .835691  | .835754  | .835817  | .835881  | .835944  | 69   |
| 686  | .836324  | .836387  | .836451  | .836514  | .836577  | 69   |
| 687  | .836957  | .837020  | 847083   | .837146  | .837209  | 69   |
| 688  | .837588  | .837652  | .837715  | .837778  | .837841  | 69   |
| 689  | .838219  | .838282  | .831345  | .838408  | .838471  | 69   |
| 690  | 2.838849 | 2.838912 | 2.838975 | 2.839038 | 2.839101 | 69   |
| 691  | .839478  | .839541  | .839604  | .839667  | .839729  | 69   |
| 692  | .840106  | .840169  | .840232  | .840294  | .840357  | 69   |
| 693  | .840733  | .840796  | .840859  | .840921  | .840984  | 69   |
| 694  | .841359  | .841422  | .841485  | .841547  | .841610  | 69   |
| 695  | .841985  | .842047  | .842110  | .842172  | .842235  | 69   |
| 696  | 2.842608 | 2.842671 | 2.842734 | 2.842796 | 2.842859 | 70   |
| 697  | .843233  | .843295  | .843357  | .843420  | .843482  | 70   |
| 698  | .843855  | .843918  | .843980  | .844042  | .844104  | 70   |
| 699  | .844477  | .844539  | .844601  | .844663  | .844726  | 70   |
| 700  | .845098  | .845160  | .845222  | .845284  | .845346  | 70   |
| 701  | .845718  | .845780  | .845840  | .845904  | .845966  | 70   |
| 702  | .846337  | .846399  | .846461  | .846523  | .846584  | 70   |

from 1 to 10000.

| Num. | 5        | 6        | 7        | 8        | 9        | Diff. |
|------|----------|----------|----------|----------|----------|-------|
| 666  | 2.823800 | 2.823865 | 2.823930 | 2.823996 | 3.824061 | 65    |
| 667  | .824451  | .824516  | .824581  | .824646  | .824711  | 65    |
| 668  | .825101  | .825166  | .825231  | .825296  | .825361  | 65    |
| 669  | .825751  | .825815  | .825880  | .825945  | .826010  | 65    |
| 670  | .826399  | .826464  | .826528  | .826593  | .826658  | 65    |
| 671  | .827046  | 827111   | .827175  | .827240  | .827305  | 95    |
| 672  | 2.827692 | 2.827757 | 2.827821 | 2.827886 | 2.827950 | 65    |
| 673  | .828338  | .828402  | .828466  | .828531  | .828595  | 64    |
| 674  | .828982  | .829046  | .829111  | .829175  | .829239  | 64    |
| 675  | .829625  | .829690  | .829754  | .829818  | .829882  | 64    |
| 676  | .830268  | .830332  | .830396  | .830460  | .830524  | 64    |
| 677  | .830909  | .830973  | .831037  | .831102  | .831166  | 64    |
| 678  | 2.831559 | 2.831614 | 2.831678 | 2.831742 | 2.831806 | 64    |
| 679  | .832189  | .832253  | .832317  | .832381  | .832445  | 64    |
| 680  | .832828  | .832892  | .832956  | .833019  | .833083  | 64    |
| 681  | .833466  | .833530  | .833593  | .833657  | .833721  | 64    |
| 682  | .834103  | .834166  | .834230  | .834293  | .834357  | 64    |
| 683  | .834738  | .834802  | .834866  | .834929  | .834993  | 64    |
| 684  | 2.835373 | 2.835437 | 2.835500 | 2.835564 | 3.835627 | 63    |
| 685  | .836007  | .836071  | .836134  | .836197  | .836261  | 63    |
| 686  | .836640  | .836704  | .836767  | .836830  | .836893  | 63    |
| 687  | .837273  | .837336  | .837399  | .837462  | .837525  | 63    |
| 688  | .837904  | .837967  | .838030  | .838093  | .838156  | 63    |
| 689  | .838534  | .838597  | .838660  | .838728  | .838786  | 63    |
| 690  | 2.839164 | 2.839227 | 2.839289 | 2.839352 | 2.839415 | 63    |
| 691  | .839792  | .839855  | .839918  | .839981  | .840043  | 63    |
| 692  | .840420  | .840482  | .840545  | .840608  | .840671  | 63    |
| 693  | .841046  | .841109  | .841172  | .841234  | .841297  | 63    |
| 694  | .841672  | .841735  | .841797  | .841860  | .841922  | 63    |
| 695  | .842297  | .842360  | .842422  | .842484  | .842547  | 62    |
| 696  | 2.842921 | 2.842983 | 2.843046 | 2.843108 | 2.843170 | 62    |
| 697  | .843544  | .843606  | .843669  | .843731  | .843793  | 62    |
| 698  | .844166  | .844229  | .844291  | .844353  | .844415  | 62    |
| 699  | .844788  | .844850  | .844912  | .844974  | .845036  | 62    |
| 700  | .845408  | .845470  | .845532  | .845594  | .845656  | 62    |
| 701  | .846028  | .846090  | .846151  | .846213  | .846275  | 62    |
| 702  | .846646  | .846708  | .846770  | .846832  | .846893  | 62    |

A T A B L E of Logarithms,

| Num. | 0        | 1        | 2        | 3        | 4        | 5  |
|------|----------|----------|----------|----------|----------|----|
| 703  | 2.846955 | 2.847017 | 2.847079 | 2.847141 | 2.847202 | 62 |
| 704  | .847573  | .847634  | .847696  | .847758  | .847819  | 62 |
| 705  | .848189  | .848251  | .848312  | .848374  | .848435  | 62 |
| 706  | .848805  | .848866  | .848928  | .848989  | .849051  | 61 |
| 707  | .849419  | .849481  | .849542  | .849604  | .849665  | 61 |
| 708  | .850033  | .850095  | .850156  | .850217  | .850279  | 61 |
| 709  | 2.850646 | 2.850707 | 2.850769 | 2.850830 | 2.850891 | 61 |
| 710  | .851258  | .851319  | .851381  | .851442  | .851503  | 61 |
| 711  | .851870  | .851931  | .851992  | .852053  | .852114  | 61 |
| 712  | .852480  | .852541  | .852602  | .852663  | .852724  | 61 |
| 713  | .853089  | .853150  | .853211  | .853272  | .853333  | 61 |
| 714  | .853698  | .853759  | .853820  | .853881  | .853941  | 61 |
| 715  | 2.854306 | 2.854367 | 2.854427 | 2.854488 | 2.854549 | 61 |
| 716  | .854913  | .854974  | .855034  | .855095  | .855156  | 61 |
| 717  | .855519  | .855580  | .855640  | .855701  | .855761  | 61 |
| 718  | .856124  | .856185  | .856245  | .856306  | .856369  | 61 |
| 719  | .856729  | .856789  | .856850  | .856910  | .856970  | 61 |
| 720  | .857332  | .857393  | .857452  | .857513  | .857574  | 61 |
| 721  | 2.857935 | 2.857995 | 2.858056 | 2.858116 | 2.858176 | 61 |
| 722  | .858537  | .858597  | .858657  | .858718  | .858778  | 61 |
| 723  | .859138  | .859198  | .859258  | .859318  | .859378  | 61 |
| 724  | .859739  | .859798  | .859858  | .859918  | .859978  | 61 |
| 725  | .860338  | .860398  | .860458  | .860518  | .860578  | 61 |
| 726  | .860937  | .860996  | .861056  | .861116  | .861176  | 61 |
| 727  | 2.861534 | 2.861594 | 2.861654 | 2.861714 | 2.861773 | 61 |
| 728  | .862131  | .862191  | .862251  | .862310  | .862370  | 61 |
| 729  | .862727  | .862787  | .862847  | .862906  | .862966  | 61 |
| 730  | .863323  | .863382  | .863442  | .863501  | .863561  | 61 |
| 731  | .863917  | .863977  | .864036  | .864096  | .864155  | 61 |
| 732  | .864411  | .864470  | .864530  | .864589  | .864748  | 61 |
| 733  | 2.865104 | 2.865163 | 2.865222 | 2.865282 | 2.865341 | 61 |
| 734  | .865696  | .865755  | .865814  | .865873  | .865933  | 61 |
| 735  | .866287  | .866346  | .866405  | .866465  | .866524  | 61 |
| 736  | .866878  | .866937  | .866996  | .867055  | .867114  | 61 |
| 737  | .867467  | .867526  | .867585  | .867644  | .867703  | 61 |
| 738  | .868056  | .868115  | .868174  | .868233  | .868292  | 61 |
| 739  | .868644  | .868703  | .868762  | .868821  | .868879  | 61 |

## from 1 to 10000.

| Num. | 5        | 6        | 7        | 8        | 9        | Diff. |
|------|----------|----------|----------|----------|----------|-------|
| 703  | 2.847264 | 2.847326 | 2.847388 | 2.847449 | 2.847511 | 62    |
| 704  | .847881  | .847943  | .848004  | .848066  | .848127  | 62    |
| 705  | .848497  | .848559  | .848620  | .848682  | .848743  | 62    |
| 706  | .849112  | .849174  | .849235  | .849296  | .849358  | 61    |
| 707  | .849726  | .849788  | .849849  | .849911  | .849972  | 61    |
| 708  | .850340  | .850401  | .850462  | .850524  | .850585  | 61    |
| 709  | 2.850952 | 2.851014 | 2.851075 | 2.851136 | 2.851197 | 61    |
| 710  | .851564  | .851625  | .851686  | .851747  | .851808  | 61    |
| 711  | .852175  | .852236  | .852297  | .852358  | .852419  | 61    |
| 712  | .852785  | .852846  | .852907  | .852968  | .853029  | 61    |
| 713  | .853394  | .853455  | .853516  | .853576  | .853637  | 61    |
| 714  | .854002  | .854063  | .854124  | .854184  | .854245  | 61    |
| 715  | 2.854610 | 2.854670 | 2.854734 | 2.854792 | 2.854852 | 61    |
| 716  | .855216  | .855277  | .855337  | .855398  | .855459  | 61    |
| 717  | .855822  | .855882  | .855943  | .856003  | .856064  | 61    |
| 718  | .856427  | .856487  | .856548  | .856608  | .856668  | 60    |
| 719  | .857031  | .857091  | .857151  | .857212  | .857272  | 60    |
| 720  | .857634  | .857694  | .857754  | .857815  | .857875  | 60    |
| 721  | 2.858236 | 2.858290 | 2.858357 | 2.858417 | 2.858477 | 60    |
| 722  | .858838  | .858898  | .858958  | .859018  | .859078  | 60    |
| 723  | .859438  | .859499  | .859559  | .859619  | .859679  | 60    |
| 724  | .860038  | .860098  | .860158  | .860218  | .860278  | 60    |
| 725  | .860637  | .860697  | .860757  | .860817  | .860877  | 60    |
| 726  | .861236  | .861295  | .861355  | .861415  | .861475  | 60    |
| 727  | 2.861833 | 2.861893 | 2.861952 | 2.862012 | 2.862072 | 60    |
| 728  | .862430  | .862489  | .862549  | .862608  | .862668  | 60    |
| 729  | .863025  | .863085  | .863144  | .863204  | .863263  | 60    |
| 730  | .863620  | .863680  | .863739  | .863798  | .863858  | 59    |
| 731  | .864214  | .864274  | .864333  | .864392  | .864452  | 59    |
| 732  | .864808  | .864867  | .864926  | .864985  | .865045  | 59    |
| 733  | 2.865400 | 2.865459 | 2.865518 | 2.865578 | 2.865637 | 59    |
| 734  | .865992  | .866051  | .866110  | .866169  | .866228  | 59    |
| 735  | .866583  | .866642  | .866701  | .866760  | .866819  | 59    |
| 736  | .867173  | .867232  | .867291  | .867350  | .867409  | 59    |
| 737  | .867762  | .867821  | .867880  | .867939  | .867997  | 59    |
| 738  | .868350  | .868409  | .868468  | .868527  | .868586  | 59    |
| 739  | .868938  | .868997  | .869056  | .869114  | .869173  | 59    |

A Table of Logarithms.

| Num. | 0        | 1        | 2        | 3        | 4        | Ref. |
|------|----------|----------|----------|----------|----------|------|
| 740  | 2.869232 | 2.869290 | 2.869349 | 2.869408 | 2.869466 | 59   |
| 741  | .869818  | .869877  | .869935  | .869994  | .870053  | 59   |
| 742  | .870404  | .870462  | .870521  | .870579  | .870638  | 58   |
| 743  | .870989  | .871047  | .871106  | .871164  | .871223  | 58   |
| 744  | .871573  | .871631  | .871690  | .871748  | .871806  | 58   |
| 745  | .872156  | .872215  | .872273  | .872331  | .872389  | 58   |
| 746  | -.872739 | 2.872797 | 2.872855 | 2.872913 | 2.872972 | 58   |
| 747  | .873321  | .873379  | .873437  | .873495  | .873553  | 58   |
| 748  | .873902  | .873960  | .874018  | .874076  | .874134  | 58   |
| 749  | .874482  | .874540  | .874598  | .874659  | .874714  | 58   |
| 750  | .875061  | .875119  | .875177  | .875235  | .875293  | 58   |
| 751  | .875640  | .875698  | .875756  | .875813  | .875871  | 58   |
| 752  | .876218  | 2.876270 | 2.876333 | 2.876391 | 2.876449 | 58   |
| 753  | .876795  | .876853  | .876910  | .876968  | .877026  | 58   |
| 754  | .877371  | .877429  | .877486  | .877544  | .877602  | 58   |
| 755  | .877947  | .878004  | .878062  | .878119  | .878177  | 57   |
| 756  | .878522  | .878579  | .878637  | .878694  | .878751  | 57   |
| 757  | .879096  | .879153  | .879211  | .879268  | .879325  | 57   |
| 758  | 2.879669 | 2.879726 | 2.879784 | 2.879841 | 2.879898 | 57   |
| 759  | .880242  | .880299  | .880356  | .880413  | .880471  | 57   |
| 760  | .880814  | .880871  | .880928  | .880985  | .881042  | 57   |
| 761  | .881385  | .881442  | .881499  | .881556  | .881613  | 57   |
| 762  | .881955  | .882012  | .882069  | .882126  | .882183  | 57   |
| 763  | .882524  | .882581  | .882638  | .882695  | .882752  | 57   |
| 764  | 2.883093 | 2.883150 | 2.883207 | 2.883264 | 2.883321 | 57   |
| 765  | .883661  | .883718  | .883775  | .883832  | .883889  | 57   |
| 766  | .884229  | .884285  | .884342  | .884399  | .884455  | 57   |
| 767  | .884795  | .884852  | .884909  | .884965  | .885022  | 57   |
| 768  | .885361  | .885418  | .885474  | .885531  | .885587  | 57   |
| 769  | .885926  | .885983  | .886039  | .886096  | .886152  | 56   |
| 770  | 2.886491 | 2.886547 | 2.886603 | 2.886660 | 2.886716 | 57   |
| 771  | .887054  | .887111  | 887167   | .887223  | .887280  | 57   |
| 772  | .887617  | .887673  | .887730  | .887786  | .887842  | 57   |
| 773  | .888179  | .888236  | .888292  | .888348  | .888404  | 57   |
| 774  | .888741  | .888797  | .888853  | .888909  | .888965  | 57   |
| 775  | .889302  | .889358  | .889414  | .889470  | .889526  | 57   |
| 776  | .889862  | .889918  | .889974  | .890030  | .890086  | 57   |

from 1 to 10000.

| Num. | 5        | 6        | 7        | 8        | 9        | Diff. |
|------|----------|----------|----------|----------|----------|-------|
| 740  | 2.869525 | 2.869584 | 2.869642 | 2.869701 | 2.869760 | 59    |
| 741  | .870111  | .870170  | .870228  | .870287  | .870345  | 59    |
| 742  | .870696  | .870755  | .870813  | .870872  | .870930  | 58    |
| 743  | .871281  | .871339  | .871398  | .871456  | .871515  | 58    |
| 744  | .871865  | .871923  | .871981  | .872040  | .872098  | 58    |
| 745  | .872448  | .872506  | .872564  | .872622  | .872681  | 58    |
| 746  | 2.873030 | 2.873088 | 2.873146 | 2.873204 | 2.873262 | 58    |
| 747  | .873611  | .873669  | .873727  | .873785  | .873843  | 58    |
| 748  | .874192  | .874250  | .874308  | .874366  | .874424  | 58    |
| 749  | .874772  | .874830  | .874887  | .874945  | .875003  | 58    |
| 750  | .875351  | .875409  | .875466  | .875524  | .875582  | 58    |
| 751  | .875929  | .875987  | .876044  | .876102  | .876160  | 58    |
| 752  | 2.876506 | 2.876564 | 2.876622 | 2.876680 | 2.876737 | 58    |
| 753  | .877083  | .877141  | .877198  | .877256  | .877314  | 58    |
| 754  | .877659  | .877717  | .877774  | .877832  | .877889  | 58    |
| 755  | .878234  | .878292  | .878349  | .878407  | .878464  | 57    |
| 756  | .878809  | .878866  | .878922  | .878981  | .879038  | 57    |
| 757  | .879383  | .879440  | .879497  | .879555  | .879612  | 57    |
| 758  | 2.879956 | 2.880013 | 2.880070 | 2.880127 | 2.880185 | 57    |
| 759  | .880528  | .880585  | .880642  | .880699  | .880756  | 57    |
| 760  | .881099  | .881156  | .881213  | .881270  | .881328  | 57    |
| 761  | .881670  | .881727  | .881784  | .881841  | .881898  | 57    |
| 762  | .882240  | .882297  | .882354  | .882411  | .882468  | 57    |
| 763  | .882809  | .882866  | .882923  | .882980  | .883036  | 57    |
| 764  | 2.883377 | 2.883434 | 2.883491 | 2.883548 | 2.883605 | 57    |
| 765  | .883945  | .884002  | .884059  | .884115  | .884172  | 57    |
| 766  | .884512  | .884569  | .884625  | .884682  | .884739  | 57    |
| 767  | .885078  | .885135  | .885191  | .885248  | .885305  | 57    |
| 768  | .885644  | .885700  | .885757  | .885813  | .885870  | 57    |
| 769  | .886209  | .886264  | .886321  | .886378  | .886434  | 56    |
| 770  | .886773  | 2.880829 | 2.886885 | 2.886942 | 2.886998 | 56    |
| 771  | .887336  | .887392  | .887448  | .887505  | .887561  | 56    |
| 772  | .887898  | .887955  | .888011  | .888067  | .888123  | 56    |
| 773  | .888460  | .888516  | .888573  | .888629  | .888685  | 56    |
| 774  | .889021  | .889077  | .889133  | .889190  | .889246  | 56    |
| 775  | .889582  | .889638  | .889694  | .889750  | .889806  | 56    |
| 776  | .890145  | .890197  | .890253  | .890309  | .890365  | 56    |

A Table of Logarithms,

| Num. | 0        | 1        | 2        | 3        | 4        | Diff. |
|------|----------|----------|----------|----------|----------|-------|
| 777  | 2.890421 | 2.890477 | 2.890533 | 2.890589 | 2.890644 | 56    |
| 778  | .890980  | .891035  | .891091  | .891147  | .891203  | 56    |
| 779  | .8911537 | .8911593 | .8911649 | .8911705 | .8911760 | 56    |
| 780  | .892095  | .892150  | .892206  | .892262  | .892317  | 56    |
| 781  | .892651  | .892707  | .892762  | .892818  | .892873  | 56    |
| 782  | .893207  | .893262  | .893318  | .893373  | .893429  | 56    |
| 783  | 2.893762 | 2.893817 | 2.893873 | 2.893928 | 2.893984 | 55    |
| 784  | .894316  | .894371  | .894427  | .894482  | .894538  | 55    |
| 785  | .894870  | .894925  | .894980  | .895036  | .895091  | 55    |
| 786  | .895422  | .895477  | .895533  | .895588  | .895643  | 55    |
| 787  | .895975  | .896030  | .896085  | .896140  | .896195  | 55    |
| 788  | .896526  | .896581  | .896626  | .896691  | .896747  | 55    |
| 789  | 2.897077 | 2.897132 | 2.897187 | 2.897242 | 2.897297 | 55    |
| 790  | .897627  | .897682  | .897737  | .897792  | .897847  | 55    |
| 791  | .898176  | .898231  | .898286  | .898341  | .898396  | 55    |
| 792  | .898725  | .898780  | .898835  | .898890  | .898944  | 55    |
| 793  | .899273  | .899328  | .899383  | .899437  | .899492  | 55    |
| 794  | .899820  | .899875  | .899930  | .899985  | .900039  | 55    |
| 795  | 2.900367 | 2.900422 | 2.900476 | 2.900531 | 2.900586 | 55    |
| 796  | .900913  | .900968  | .901022  | .901077  | .901131  | 55    |
| 797  | .901458  | .901513  | .901567  | .901622  | .901676  | 54    |
| 798  | .902003  | .902057  | .902112  | .902166  | .902220  | 54    |
| 799  | .902547  | .902601  | .902655  | .902710  | .902764  | 54    |
| 800  | .903090  | .903144  | .903198  | .903253  | .903307  | 54    |
| 801  | .903532  | .903587  | .903741  | .903795  | .903849  | 54    |
| 802  | .904174  | .904228  | .904283  | .904337  | .904391  | 54    |
| 803  | .904715  | .904770  | .904824  | .904878  | .904932  | 54    |
| 804  | .905256  | .905310  | .905364  | .905418  | .905472  | 54    |
| 805  | .905795  | .905850  | .905904  | .905958  | .906012  | 54    |
| 806  | .906225  | .906389  | .906442  | .906497  | .906550  | 54    |
| 807  | 2.906873 | 2.907927 | 2.906981 | 2.907035 | 2.907089 | 54    |
| 808  | .907411  | .907465  | .907519  | .907573  | .907626  | 54    |
| 809  | .907948  | .908002  | .908056  | .908109  | .908163  | 54    |
| 810  | .908485  | .908539  | .908592  | .908646  | .908699  | 54    |
| 811  | .909021  | .909075  | .909128  | .909181  | .909235  | 53    |
| 812  | .909556  | .909609  | .909663  | .909716  | .909770  | 53    |
| 813  | .910090  | .910144  | .910197  | .910251  | .910304  | 53    |

from 1 to 10000.

| Num. | 5        | 6        | 7        | 8        | 9        | Diff. |
|------|----------|----------|----------|----------|----------|-------|
| 777  | 2.890700 | 2.890755 | 2.890812 | 2.890868 | 2.890924 | 56    |
| 778  | .891259  | .891314  | .891370  | .891426  | .891482  | 56    |
| 779  | .891816  | .891872  | .891927  | .891983  | .892039  | 56    |
| 780  | .892373  | .892428  | .892484  | .892540  | .892595  | 56    |
| 781  | .892929  | .892985  | .893040  | .893096  | .893151  | 56    |
| 782  | .893484  | .893540  | .893595  | .893651  | .893706  | 56    |
| 783  | 2.894039 | 2.894094 | 2.894150 | 2.894205 | .894261  | 55    |
| 784  | .894593  | .894648  | .894704  | .894759  | .894814  | 55    |
| 785  | .895146  | .895201  | .895257  | .895312  | .895367  | 55    |
| 786  | .895699  | .895754  | .895809  | .895864  | .895919  | 55    |
| 787  | .896251  | .896306  | .896361  | .896416  | .896471  | 55    |
| 788  | .896802  | .896857  | .896912  | .896967  | .897022  | 55    |
| 789  | 2.897352 | 2.897407 | 2.897462 | 2.897517 | 2.897572 | 55    |
| 790  | .897902  | .897957  | .898012  | .898067  | .898122  | 55    |
| 791  | .898451  | .898506  | .898561  | .898615  | .898670  | 55    |
| 792  | .898999  | .899054  | .899109  | .899164  | .899218  | 55    |
| 793  | .899547  | .899602  | .899656  | .899711  | .899766  | 55    |
| 794  | .900094  | .900149  | .900203  | .900258  | .900312  | 55    |
| 795  | 2.900640 | 2.900695 | 2.900749 | 2.900804 | 2.900858 | 55    |
| 796  | .901186  | .901240  | .901295  | .901349  | .901404  | 55    |
| 797  | .901731  | .901785  | .901840  | .901894  | .901948  | 54    |
| 798  | .902275  | .902329  | .902384  | .902438  | .902492  | 54    |
| 799  | .902818  | .902873  | .902927  | .902981  | .903036  | 54    |
| 800  | .903361  | .903416  | .903470  | .903524  | .903578  | 54    |
| 801  | 2.903903 | 2.903958 | 2.904012 | 2.904066 | 2.904120 | 54    |
| 802  | .904445  | .904499  | .904553  | .904607  | .904661  | 54    |
| 803  | .904986  | .905040  | .905094  | .905148  | .905202  | 54    |
| 804  | .905526  | .905580  | .905634  | .905688  | .905742  | 54    |
| 805  | .906065  | .906119  | .906173  | .906227  | .906281  | 54    |
| 806  | .906604  | .906658  | .906712  | .906766  | .906820  | 54    |
| 807  | 2.907142 | 2.907196 | 2.907250 | 2.907304 | 2.907358 | 54    |
| 808  | .907680  | .907734  | .907787  | .907841  | .907895  | 54    |
| 809  | .908217  | .908270  | .908324  | .908378  | .908431  | 54    |
| 810  | .908753  | .908807  | .908860  | .908914  | .908967  | 54    |
| 811  | .909288  | .909342  | .909395  | .909449  | .909502  | 54    |
| 812  | .909823  | .909877  | .909930  | .909984  | .910037  | 53    |
| 813  | .910358  | .910411  | .910464  | .910518  | .910571  | 53    |

J

A Table of Logarithms,

| Num. | 0        | 1        | 2        | 3        | 4        | Dif. |
|------|----------|----------|----------|----------|----------|------|
| 814  | 2.910624 | 2.910678 | 2.910731 | 2.910784 | 2.910838 | 53   |
| 815  | .911158  | .911211  | .911264  | .911317  | .911371  | 53   |
| 816  | .911690  | .911743  | .911797  | .911850  | .911903  | 53   |
| 817  | .912222  | .912275  | .912328  | .912381  | .912435  | 53   |
| 818  | .912753  | .912806  | .912859  | .912912  | .912966  | 53   |
| 819  | .913284  | .913337  | .913390  | .913443  | .913496  | 53   |
| 820  | 2.913814 | 2.913867 | 2.913920 | 2.913973 | 2.914026 | 53   |
| 821  | .914343  | .914396  | .914449  | .914502  | .914555  | 53   |
| 822  | .914872  | .914925  | .914977  | .915030  | .915083  | 53   |
| 823  | .915400  | .915453  | .915505  | .915558  | .915611  | 53   |
| 824  | .915927  | .915980  | .916033  | .916085  | .916138  | 53   |
| 825  | .916454  | .916507  | .916559  | .916612  | .916664  | 53   |
| 826  | 2.916980 | 2.917033 | 2.917085 | 2.917138 | 2.917190 | 53   |
| 827  | .917505  | .917558  | .917610  | .917663  | .917715  | 53   |
| 828  | .918030  | .918083  | .918135  | .918188  | .918240  | 53   |
| 829  | .918554  | .918607  | .918659  | .918712  | .918764  | 53   |
| 830  | .919078  | .919130  | .919183  | .919235  | .919287  | 53   |
| 831  | .919601  | .919653  | .919705  | .919758  | .919810  | 53   |
| 832  | 2.920123 | 2.920175 | 2.920228 | 2.920280 | 2.920332 | 53   |
| 833  | .920645  | .920697  | .920749  | .920801  | .920853  | 53   |
| 834  | .921166  | .921218  | .921270  | .921322  | .921374  | 53   |
| 835  | .921686  | .921738  | .921790  | .921842  | .921894  | 53   |
| 836  | .922206  | .922258  | .922310  | .922362  | .922414  | 53   |
| 837  | .922725  | .922777  | .922829  | .922881  | .922933  | 53   |
| 838  | 2.923244 | 2.923290 | 2.923340 | 2.923399 | 2.923451 | 53   |
| 839  | .923762  | .923814  | .923865  | .923917  | .923969  | 53   |
| 840  | .924279  | .924331  | .924383  | .924434  | .924486  | 53   |
| 841  | .924795  | .924848  | .924899  | .924951  | .925002  | 53   |
| 842  | .925312  | .925364  | .925415  | .925467  | .925518  | 53   |
| 843  | .925828  | .925879  | .925931  | .925982  | .926034  | 53   |
| 844  | 2.926342 | 2.926394 | 2.926445 | 2.926497 | 2.926548 | 53   |
| 845  | .926857  | .926908  | .926959  | .927011  | .927062  | 53   |
| 846  | .927370  | .927422  | .927473  | .927524  | .927576  | 53   |
| 847  | .927883  | .927935  | .927986  | .928037  | .928088  | 53   |
| 848  | .928396  | .928447  | .928498  | .928549  | .928601  | 53   |
| 849  | .928908  | .928959  | .929010  | .929061  | .929112  | 53   |
| 850  | .929419  | .929470  | .929521  | .929572  | .929623  | 53   |

from 1 to 10000.

| num. | 5        | 6        | 7        | 8        | 9        | 10 |
|------|----------|----------|----------|----------|----------|----|
| 814  | 2.910891 | 2.910944 | 2.910998 | 2.911051 | 2.911104 | 53 |
| 815  | .911424  | .911477  | .911530  | .911584  | .911637  | 53 |
| 816  | .911958  | .912009  | .912063  | .912110  | .912169  | 53 |
| 817  | .912488  | .912541  | .912594  | .912647  | .912700  | 53 |
| 818  | .913019  | .913072  | .913125  | .913178  | .913231  | 53 |
| 819  | .913549  | .913602  | .913655  | .913708  | .913761  | 53 |
| 820  | 2.914072 | 2.914131 | 2.914184 | 2.914237 | 2.914290 | 53 |
| 821  | .914608  | .914660  | .914713  | .914766  | .914819  | 53 |
| 822  | .915136  | .915189  | .915241  | .915294  | .915347  | 53 |
| 823  | .915664  | .915716  | .915769  | .915822  | .915874  | 53 |
| 824  | .916191  | .916243  | .916296  | .916349  | .916401  | 53 |
| 825  | .916717  | .916770  | .916822  | .916875  | .916927  | 53 |
| 826  | 2.917243 | 2.917295 | 2.917348 | 2.917400 | 2.917453 | 53 |
| 827  | .917768  | .917820  | .917873  | .917925  | .917978  | 52 |
| 828  | .918292  | .918345  | .918397  | .918450  | .918502  | 52 |
| 829  | .918816  | .918869  | .918921  | .918973  | .919026  | 52 |
| 830  | .919340  | .919392  | .919444  | .919496  | .919549  | 52 |
| 831  | .919862  | .919914  | .919967  | .920019  | .920071  | 52 |
| 832  | 2.920384 | 2.920436 | 2.920489 | 2.920541 | 2.920593 | 52 |
| 833  | .920906  | .920958  | .921010  | .921062  | .921114  | 52 |
| 834  | .921426  | .921478  | .921530  | .921582  | .921634  | 52 |
| 835  | .921946  | .921998  | .922050  | .922102  | .922154  | 52 |
| 836  | .922466  | .922518  | .922570  | .922622  | .922674  | 52 |
| 837  | .922985  | .923037  | .923088  | .923140  | .923192  | 52 |
| 838  | 2.923503 | 2.923555 | 2.923607 | 2.923658 | 2.923710 | 52 |
| 839  | .924021  | .924072  | .924124  | .924176  | .924228  | 52 |
| 840  | .924538  | .924589  | .924641  | .924693  | .924744  | 52 |
| 841  | .925054  | .925106  | .925157  | .925209  | .925260  | 52 |
| 842  | .925570  | .925621  | .925673  | .925724  | .925775  | 52 |
| 843  | .926085  | .926137  | .926188  | .926239  | .926291  | 51 |
| 844  | 2.926600 | 2.926651 | 2.926702 | 2.926754 | 2.926805 | 51 |
| 845  | .927114  | .927165  | .927216  | .927268  | .927319  | 51 |
| 846  | .927627  | .927678  | .927730  | .927781  | .927832  | 51 |
| 847  | .928140  | .928191  | .928242  | .928293  | .928345  | 51 |
| 848  | .928652  | .928703  | .928754  | .928805  | .928856  | 51 |
| 849  | .929163  | .929214  | .929266  | .929317  | .929368  | 51 |
| 850  | .929674  | .929725  | .929776  | .929827  | .929878  | 51 |

**A Table of Logarithms,**

| Num. | 0        | 1        | 2        | 3        | 4        | Diff. | Nu  |
|------|----------|----------|----------|----------|----------|-------|-----|
| 851  | 2.929930 | 2.929981 | 2.930032 | 2.930083 | 2.930134 | .51   | 851 |
| 852  | .930449  | .930491  | .930541  | .930592  | .930643  | .51   | 852 |
| 853  | .930949  | .931000  | .931051  | .931102  | .931153  | .51   | 853 |
| 854  | .931458  | .931509  | .931560  | .931610  | .931661  | .51   | 854 |
| 855  | .931966  | .932017  | .932068  | .932118  | .932169  | .51   | 855 |
| 856  | .932474  | .932524  | .932575  | .932626  | .932677  | .51   | 856 |
| 857  | 2.932981 | 2.933031 | 2.933082 | 2.933133 | 2.933183 | .51   | 857 |
| 858  | .933487  | .933538  | .933588  | .933639  | .933690  | .51   | 858 |
| 859  | .933993  | .934044  | .934094  | .934145  | .934195  | .51   | 859 |
| 860  | .934498  | .934549  | .934599  | .934650  | .934700  | .50   | 860 |
| 861  | .935003  | .935054  | .935104  | .935154  | .935205  | .50   | 861 |
| 862  | .935507  | .935558  | .935608  | .935658  | .935709  | .50   | 862 |
| 863  | 2.936011 | 2.936061 | 2.936111 | 2.936162 | 2.936212 | .50   | 863 |
| 864  | .936514  | .936564  | .936614  | .936664  | .936715  | .50   | 864 |
| 865  | .937016  | .937066  | .937116  | .937167  | .937217  | .50   | 865 |
| 866  | .937518  | .937568  | .937618  | .937668  | .937718  | .50   | 866 |
| 867  | .938019  | .938069  | .938119  | .938169  | .938219  | .50   | 867 |
| 868  | .938520  | .938570  | .938620  | .938670  | .938720  | .50   | 868 |
| 869  | 2.939020 | 2.939070 | 2.939120 | 2.939170 | 2.939220 | .50   | 869 |
| 870  | .939519  | .939569  | .939619  | .939669  | .939719  | .50   | 870 |
| 871  | .940018  | .940068  | .940118  | .940168  | .940218  | .50   | 871 |
| 872  | .940516  | .940566  | .940616  | .940666  | .940716  | .50   | 872 |
| 873  | .941014  | .941064  | .941114  | .941163  | .941213  | .50   | 873 |
| 874  | .941511  | .941561  | .941611  | .941660  | .941710  | .50   | 874 |
| 875  | 2.942008 | 2.942058 | 2.942107 | 2.942157 | 2.942206 | .50   | 875 |
| 876  | .942504  | .942554  | .942603  | .942652  | .942702  | .50   | 876 |
| 877  | .943000  | .943049  | .943099  | .943148  | .943198  | .49   | 877 |
| 878  | .943494  | .943544  | .943593  | .943643  | .943692  | .49   | 878 |
| 879  | .943989  | .944038  | .944088  | .944137  | .944186  | .49   | 879 |
| 880  | .944483  | .944532  | .944581  | .944631  | .944680  | .49   | 880 |
| 881  | 2.944976 | 2.945025 | 2.945074 | 2.945124 | 2.945173 | .49   | 881 |
| 882  | .945469  | .945518  | .945567  | .945616  | .945665  | .49   | 882 |
| 883  | .945961  | .946010  | .946059  | .946108  | .946157  | .49   | 883 |
| 884  | .946452  | .946501  | .946550  | .946600  | .946649  | .49   | 884 |
| 885  | .946943  | .946992  | .947041  | .947090  | .947139  | .49   | 885 |
| 886  | .947434  | .947483  | .947532  | .947581  | .947630  | .49   | 886 |
| 887  | .947924  | .947973  | .948021  | .948070  | .948119  | .49   | 887 |

from 1 to 1000.

| Num. | 5        | 6        | 7        | 8        | 9        | Diff. |
|------|----------|----------|----------|----------|----------|-------|
| 851  | 2.930185 | 2.930236 | 2.930287 | 2.930338 | 2.930389 | 51    |
| 852  | .930694  | .930745  | .930796  | .930847  | .930898  | 51    |
| 853  | .931205  | .931254  | .931305  | .931356  | .931407  | 51    |
| 854  | .931712  | .931763  | .931814  | .931864  | .931915  | 51    |
| 855  | .932220  | .932271  | .932321  | .932372  | .932423  | 51    |
| 856  | .932727  | .932778  | .932829  | .932879  | .932930  | 49    |
| 857  | 2.933234 | 2.933285 | 2.933335 | 2.933386 | 2.933437 | 51    |
| 858  | .933740  | .933791  | .933841  | .933892  | .933943  | 51    |
| 859  | .934246  | .934296  | .934347  | .934397  | .934448  | 51    |
| 860  | .934751  | .934801  | .934852  | .934902  | .934953  | 50    |
| 861  | .935255  | .935306  | .935356  | .935406  | .935457  | 50    |
| 862  | .935759  | .935809  | .935860  | .935910  | .935960  | 50    |
| 863  | 2.936262 | 2.936313 | 2.936363 | 2.936413 | 2.936463 | 50    |
| 864  | .936765  | .936815  | .936865  | .936916  | .936966  | 50    |
| 865  | .937267  | .937317  | .937367  | .937418  | .937468  | 50    |
| 866  | .937769  | .937819  | .937869  | .937919  | .937969  | 50    |
| 867  | .938269  | .938319  | .938370  | .938420  | .938470  | 50    |
| 868  | .938770  | .938820  | .938870  | .938920  | .938970  | 50    |
| 869  | 2.939275 | 2.939319 | 2.939369 | 2.939419 | 2.939469 | 50    |
| 870  | .939769  | .939819  | .939868  | .939918  | .939968  | 50    |
| 871  | .940267  | .940317  | .940367  | .940417  | .940467  | 50    |
| 872  | .940765  | .940815  | .940865  | .940915  | .940964  | 50    |
| 873  | .941263  | .941313  | .941362  | .941412  | .941462  | 50    |
| 874  | .941760  | .941800  | .941850  | .941900  | .941950  | 50    |
| 875  | 2.942256 | 2.942306 | 2.942355 | 2.942405 | 2.942455 | 50    |
| 876  | .942752  | .942801  | .942851  | .942900  | .942950  | 50    |
| 877  | .943247  | .943297  | .943346  | .943396  | .943446  | 49    |
| 878  | .943742  | .943791  | .943841  | .943890  | .943939  | 49    |
| 879  | .944236  | .944285  | .944335  | .944384  | .944433  | 49    |
| 880  | .944729  | .944779  | .944828  | .944877  | .944927  | 49    |
| 881  | 2.945223 | 2.945272 | 2.945321 | 2.945370 | 2.945419 | 49    |
| 882  | .945715  | .945764  | .945813  | .945863  | .945912  | 49    |
| 883  | .946207  | .946256  | .946305  | .946354  | .946403  | 49    |
| 884  | .946698  | .946747  | .946796  | .946845  | .946894  | 49    |
| 885  | .947189  | .947238  | .947287  | .947336  | .947385  | 49    |
| 886  | .947679  | .947728  | .947777  | .947826  | .947875  | 49    |
| 887  | .948168  | .948217  | .948266  | .948315  | .948364  | 49    |

A Table of Logarithms,

| Num. | 0        | 1        | 2        | 3        | 4        | Diff. |
|------|----------|----------|----------|----------|----------|-------|
| 888  | 2.948413 | 2.948462 | 2.948511 | 2.948560 | 2.948608 | 49    |
| 889  | .948902  | .948951  | .948999  | .949048  | .949097  | 49    |
| 890  | .949390  | .949439  | .949488  | .949536  | .949585  | 49    |
| 891  | .949878  | .949926  | .949975  | .950024  | .950073  | 49    |
| 892  | .950365  | .950413  | .950462  | .950511  | .950560  | 49    |
| 893  | .950851  | .950900  | .950949  | .950997  | .951046  | 49    |
| 894  | 2.951337 | 2.951386 | 2.951435 | 2.951483 | 2.951532 | 49    |
| 895  | .951823  | .951872  | .951920  | .951969  | .952017  | 49    |
| 896  | .952308  | .952356  | .952405  | .952453  | .952502  | 49    |
| 897  | .952792  | .952841  | .952889  | .952938  | .952986  | 49    |
| 898  | .953276  | .953325  | .953373  | .953421  | .953470  | 49    |
| 899  | .953760  | .953808  | .953856  | .953905  | .953953  | 49    |
| 900  | 2.954242 | 2.954291 | 2.954339 | 2.954387 | 2.954435 | 49    |
| 901  | .954725  | .954773  | .954821  | .954869  | .954918  | 49    |
| 902  | .955205  | .955255  | .955303  | .955351  | .955399  | 49    |
| 903  | .955688  | .955736  | .955784  | .955832  | .955880  | 49    |
| 904  | .956168  | .956216  | .956264  | .956312  | .956360  | 49    |
| 905  | .956649  | .956697  | .956745  | .956792  | .956840  | 49    |
| 906  | 2.957128 | 2.957176 | 2.957224 | 2.957272 | 2.957320 | 49    |
| 907  | .957607  | .957655  | .957703  | .957751  | .957799  | 49    |
| 908  | .958085  | .958134  | .958181  | .958229  | .958277  | 49    |
| 909  | .958564  | .958612  | .958659  | .958707  | .958755  | 49    |
| 910  | .959041  | .959089  | .959137  | .959184  | .959232  | 49    |
| 911  | .959518  | .959566  | .959614  | .959661  | .959709  | 49    |
| 912  | 2.959995 | 2.960042 | 2.960090 | 2.960138 | 2.960185 | 49    |
| 913  | .960471  | .960518  | .960565  | .960613  | .960661  | 49    |
| 914  | .960945  | .960994  | .961041  | .961089  | .961136  | 49    |
| 915  | .961421  | .961468  | .961516  | .961563  | .961611  | 49    |
| 916  | .961895  | .961943  | .961990  | .962038  | .962085  | 49    |
| 917  | .962369  | .962417  | .962464  | .962511  | .962559  | 49    |
| 918  | 2.962843 | 2.962890 | 2.962937 | 2.962985 | 2.963032 | 49    |
| 919  | .963315  | .963363  | .963410  | .963457  | .963504  | 49    |
| 920  | .963788  | .963835  | .963882  | .963929  | .963977  | 49    |
| 921  | .964260  | .964307  | .964354  | .964401  | .964448  | 49    |
| 922  | .964731  | .964778  | .964825  | .964872  | .964919  | 49    |
| 923  | .965202  | .965249  | .965296  | .965343  | .965390  | 49    |
| 924  | .965672  | .965719  | .965766  | .965813  | .965860  | 49    |

from 1 to 10000.

| Num. | 5        | 6        | 7        | 8        | 9        | Diff. |
|------|----------|----------|----------|----------|----------|-------|
| 888  | 2.948657 | 2.948706 | 2.948875 | 2.948804 | 2.948853 | 49    |
| 889  | .949146  | .949195  | .949244  | .949292  | .949341  | 49    |
| 890  | .949633  | .949683  | .949731  | .949780  | .949829  | 49    |
| 891  | .950121  | .950170  | .950219  | .950267  | .950316  | 49    |
| 892  | .950608  | .950657  | .950705  | .950754  | .950803  | 49    |
| 893  | .951095  | .951143  | .951192  | .951240  | .951289  | 49    |
| 894  | 2.951580 | 2.951625 | 2.951677 | 2.951726 | 2.951774 | 49    |
| 895  | .952066  | .952114  | .952163  | .952211  | .952259  | 49    |
| 896  | .952550  | .952595  | .952647  | .952696  | .952744  | 48    |
| 897  | .953034  | .953083  | .953131  | .953180  | .953228  | 48    |
| 898  | .953518  | .953566  | .953615  | .953663  | .953711  | 48    |
| 899  | .954001  | .954045  | .954098  | .954146  | .954194  | 48    |
| 900  | 2.954484 | 2.954532 | 2.954580 | 2.954628 | 2.954677 | 48    |
| 901  | .954966  | .955014  | .955062  | .955210  | .955158  | 48    |
| 902  | .955447  | .955495  | .955543  | .955591  | .955640  | 48    |
| 903  | .955928  | .955976  | .956024  | .956072  | .956120  | 48    |
| 904  | .956409  | .956457  | .956505  | .956553  | .956601  | 48    |
| 905  | .956888  | .956936  | .956984  | .957032  | .957080  | 48    |
| 906  | 2.957368 | 2.957417 | 2.957464 | 2.957511 | 2.957559 | 48    |
| 907  | .957847  | .957894  | .957942  | .957990  | .958038  | 48    |
| 908  | .958325  | .958373  | .958420  | .958468  | .958516  | 48    |
| 909  | .958803  | .958850  | .958898  | .958946  | .958994  | 48    |
| 910  | .959280  | .959328  | .959375  | .959423  | .959471  | 48    |
| 911  | .959757  | .959804  | .959852  | .959900  | .959947  | 48    |
| 912  | 2.960233 | 2.960280 | 2.960328 | 2.960376 | 2.960433 | 48    |
| 913  | .960708  | .960756  | .960804  | .960851  | .960899  | 48    |
| 914  | .961184  | .961231  | .961279  | .961326  | .961374  | 47    |
| 915  | .961658  | .961706  | .961753  | .961801  | .961848  | 47    |
| 916  | .962132  | .962180  | .962227  | .962275  | .962322  | 47    |
| 917  | .962605  | .962653  | .962701  | .962748  | .962795  | 47    |
| 918  | 2.963079 | 2.963126 | 2.963174 | 2.963221 | 2.963268 | 47    |
| 919  | .963552  | .963599  | .963646  | .963693  | .963741  | 47    |
| 920  | .964024  | .964071  | .964118  | .964165  | .964212  | 47    |
| 921  | .964495  | .964542  | .964590  | .964637  | .964684  | 47    |
| 922  | .964966  | .965013  | .965060  | .965108  | .965155  | 47    |
| 923  | .965437  | .965484  | .965531  | .965578  | .965625  | 47    |
| 924  | .965907  | .965954  | .966001  | .966048  | .966095  | 47    |

A Table of Logarithms,

| Num. | 0        | 1        | 2        | 3        | 4        | Diff. | Num. |
|------|----------|----------|----------|----------|----------|-------|------|
| 925  | 2.966142 | 2.966189 | 2.966235 | 2.966283 | 2.966329 | 47    | 92   |
| 926  | .966611  | .966658  | .966705  | .966752  | .966798  | 47    | 92   |
| 927  | .967080  | .967127  | .967173  | .967220  | .967267  | 47    | 92   |
| 928  | .967548  | .967595  | .967642  | .967688  | .967735  | 47    | 92   |
| 929  | .968016  | .968062  | .968109  | .968156  | .968203  | 47    | 92   |
| 930  | .968483  | .968530  | .968576  | .968623  | .968670  | 47    | 93   |
| 931  | 2.968950 | 2.968990 | 2.969043 | 2.969090 | 2.969136 | 47    | 93   |
| 932  | .969416  | .969462  | .969509  | .969550  | .969602  | 47    | 93   |
| 933  | .969882  | .969928  | .969975  | .970031  | .970068  | 47    | 93   |
| 934  | .970347  | .970393  | .970440  | .970486  | .970533  | 46    | 93   |
| 935  | .970812  | .970858  | .970904  | .970951  | .970997  | 46    | 93   |
| 936  | .971270  | .971322  | .971369  | .971415  | .971461  | 46    | 93   |
| 937  | .971740  | .971786  | .971832  | .971879  | .971925  | 46    | 93   |
| 938  | .972203  | .972249  | .972295  | .972342  | .972388  | 46    | 93   |
| 939  | .972650  | .972712  | .972758  | .972804  | .972851  | 46    | 93   |
| 940  | .973128  | .973174  | .973220  | .973266  | .973313  | 46    | 84   |
| 941  | .973590  | .973636  | .973682  | .973728  | .973774  | 46    | 94   |
| 942  | .974051  | .974097  | .974143  | .974189  | .974235  | 46    | 94   |
| 943  | .974512  | 2.974558 | 2.974604 | 2.974650 | 2.974690 | 46    | 94   |
| 944  | .974972  | .975018  | .975064  | .975110  | .975156  | 46    | 94   |
| 945  | .975434  | .975478  | .975524  | .975570  | .975616  | 46    | 94   |
| 946  | .975891  | .975937  | .975983  | .976029  | .976074  | 46    | 94   |
| 947  | .976350  | .976396  | .976442  | .976487  | .976533  | 46    | 94   |
| 948  | .976808  | .976854  | .976900  | .976945  | .976991  | 46    | 94   |
| 949  | 2.977256 | 2.977312 | 2.977358 | 2.977403 | 2.977449 | 46    | 94   |
| 950  | .977724  | .977769  | .977815  | .977861  | .977906  | 46    | 95   |
| 951  | .978180  | .978226  | .978272  | .978317  | .978363  | 46    | 95   |
| 952  | .978537  | .978583  | .978628  | .978674  | .978819  | 46    | 95   |
| 953  | .979093  | .979138  | .979184  | .979230  | .979275  | 46    | 95   |
| 954  | .979548  | .979591  | .979639  | .979685  | .979730  | 46    | 95   |
| 955  | 2.980003 | 3.980049 | 2.980094 | 2.980140 | 2.980185 | 45    | 95   |
| 956  | .980458  | .980503  | .980549  | .980594  | .980640  | 45    | 95   |
| 957  | .980912  | .980957  | .981003  | .981003  | .981093  | 45    | 95   |
| 958  | .981365  | .981411  | .981456  | .981501  | .981547  | 45    | 95   |
| 959  | .981819  | .981864  | .981909  | .981954  | .982000  | 45    | 95   |
| 960  | .982271  | .982316  | .982352  | .982407  | .982452  | 45    | 96   |
| 961  | .982723  | .982769  | .982814  | .982859  | .982904  | 45    | 96   |

from 1 to 10000.

| Num: | 5        | 6        | 7        | 8        | 9        | Diff |
|------|----------|----------|----------|----------|----------|------|
| 925  | 2.966376 | 2.966423 | 2.966470 | 2.966517 | 2.966564 | 47   |
| 926  | .966845  | .966892  | .966939  | .966986  | .967033  | 47   |
| 927  | .967314  | .967361  | .967408  | .967454  | .967501  | 47   |
| 928  | .967782  | .967829  | .967875  | .967922  | .967969  | 47   |
| 929  | .968249  | .968296  | .968343  | .968389  | .968436  | 47   |
| 930  | .968716  | .968763  | .968810  | .968856  | .968903  | 47   |
| 931  | 2.969183 | 3.969225 | 2.969270 | 2.969323 | 2.969369 | 47   |
| 932  | .969649  | .969695  | .969742  | .969788  | .969835  | 47   |
| 933  | .970114  | .970161  | .970207  | .970254  | .970301  | 47   |
| 934  | .970579  | .970620  | .970672  | .970719  | .970765  | 46   |
| 935  | .971044  | .971090  | .971137  | .971183  | .971229  | 46   |
| 936  | .971508  | .971554  | .971600  | .971647  | .971693  | 46   |
| 937  | 2.971971 | 2.972018 | 2.972064 | 2.972110 | 2.972156 | 46   |
| 938  | .972434  | .972480  | .972527  | .972573  | .972619  | 46   |
| 939  | .972897  | .972943  | .972989  | .973035  | .973082  | 46   |
| 940  | .973359  | .973405  | .973451  | .973497  | .973543  | 46   |
| 941  | .973820  | .973866  | .973913  | .973959  | .974005  | 46   |
| 942  | .974281  | .974327  | .974373  | .974420  | .974466  | 46   |
| 943  | 2.974742 | 2.974788 | .974834  | 2.974880 | 2.974920 | 46   |
| 944  | .975202  | .975248  | .975294  | .975340  | .975380  | 46   |
| 945  | .975661  | .975707  | .975753  | .975799  | .975845  | 46   |
| 946  | .976121  | .976166  | .976212  | .976258  | .976304  | 46   |
| 947  | .976579  | .976625  | .976671  | .976717  | .976762  | 46   |
| 948  | .977037  | .977083  | .977129  | .977175  | .977220  | 46   |
| 949  | 2.977495 | 2.977541 | 2.977586 | 2.977632 | 2.977678 | 46   |
| 950  | .977952  | .977998  | .978043  | .978089  | .978135  | 46   |
| 951  | .978409  | .978454  | .978500  | .978540  | .978591  | 46   |
| 952  | .978865  | .978911  | .978956  | .979002  | .979047  | 46   |
| 953  | .979321  | .979360  | .979412  | .979457  | .979503  | 46   |
| 954  | .979776  | .979821  | .979867  | .979912  | .979958  | 46   |
| 955  | 2.980231 | 2.980276 | 2.980322 | 2.980367 | 2.980412 | 45   |
| 956  | .980685  | .980730  | .980776  | .980821  | .980867  | 45   |
| 957  | .981139  | .981184  | .981229  | .981275  | .981320  | 45   |
| 958  | .981592  | .981637  | .981683  | .981728  | .981773  | 45   |
| 959  | .982045  | .982090  | .982135  | .982181  | .982226  | 45   |
| 960  | .982497  | .982543  | .982588  | .982633  | .982678  | 45   |
| 961  | .982949  | .982994  | .983040  | .983085  | .983130  | 45   |

A Table of Logarithms,

| Num. | 0        | 1        | 2        | 3        | 4        | Diff. |
|------|----------|----------|----------|----------|----------|-------|
| 962  | 2.983175 | 2.983220 | 2.983265 | 2.983310 | 2.983356 | 45    |
| 963  | .983626  | .983671  | .983816  | .983762  | .983807  | 45    |
| 964  | .984077  | .984122  | .984167  | .984212  | .984257  | 45    |
| 965  | .984527  | .984572  | .984617  | .984662  | .984707  | 45    |
| 966  | .984977  | .985022  | .985067  | .985112  | .985157  | 45    |
| 967  | .985426  | .985471  | .985516  | .985561  | .985606  | 45    |
| 968  | 2.985875 | 2.985920 | 2.985965 | 2.986010 | 2.986055 | 45    |
| 969  | .986324  | .986369  | .986413  | .986458  | .986503  | 45    |
| 970  | .986772  | .986816  | .986861  | .986906  | .986951  | 45    |
| 971  | .987219  | .987264  | .987309  | .987353  | .987398  | 45    |
| 972  | .987666  | .987711  | .987756  | .987800  | .987845  | 45    |
| 973  | .988113  | .988157  | .988202  | .988247  | .988291  | 45    |
| 974  | 2.988559 | 2.988603 | 2.988648 | 2.988692 | 2.988737 | 45    |
| 975  | .989005  | .989049  | .989094  | .989138  | .989183  | 45    |
| 976  | .989450  | .989494  | .989539  | .989583  | .989628  | 44    |
| 977  | .989895  | .989939  | .989983  | .990028  | .990072  | 44    |
| 978  | .990339  | .990383  | .990428  | .990472  | .990516  | 44    |
| 979  | .990783  | .990827  | .990871  | .990916  | .990960  | 44    |
| 980  | 2.991226 | 2.991270 | 2.991315 | 2.991359 | 2.991403 | 44    |
| 981  | .991569  | .991713  | .991757  | .991802  | .991746  | 44    |
| 982  | .992111  | .992156  | .992200  | .992244  | .992288  | 44    |
| 983  | .992553  | .992598  | .992642  | .992686  | .992730  | 44    |
| 984  | .992995  | .993039  | .993083  | .993127  | .993172  | 44    |
| 985  | .993436  | .993480  | .993524  | .993568  | .993612  | 44    |
| 986  | 2.993877 | 2.993921 | 2.993965 | 2.994009 | 2.994053 | 44    |
| 987  | .994317  | .994361  | .994405  | .994449  | .994493  | 44    |
| 988  | .994757  | .994801  | .994845  | .994889  | .994933  | 44    |
| 989  | .995196  | .995240  | .995284  | .995328  | .995372  | 44    |
| 990  | .995635  | .995679  | .995723  | .995767  | .995811  | 44    |
| 991  | .996074  | .996117  | .996161  | .996205  | .996249  | 44    |
| 992  | 2.996512 | 2.996555 | 2.996599 | 2.996643 | 2.996687 | 44    |
| 993  | .996949  | .996993  | .997037  | .997080  | .997124  | 44    |
| 994  | .997386  | .997430  | .997474  | .997517  | .997561  | 44    |
| 995  | .997823  | .997867  | .997910  | .997954  | .997998  | 44    |
| 996  | .998259  | .998303  | .998346  | .998390  | .998434  | 44    |
| 997  | .998695  | .998739  | .998782  | .998826  | .998869  | 44    |
| 998  | .999130  | .999174  | .999218  | .999261  | .999305  | 44    |
| 999  | .999585  | .999609  | .999652  | .999696  | .999739  | 43    |

from 1 to 10000.

| Num. | 5        | 1        | 6        | 7        | 8        | 9  | Diff. |
|------|----------|----------|----------|----------|----------|----|-------|
| 962  | .983401  | 2.983446 | 2.983491 | .983530  | 2.983581 | 45 |       |
| 963  | .983852  | .983897  | .983942  | .983987  | .984032  | 44 |       |
| 964  | .984302  | .984347  | .984392  | .984437  | .984482  | 45 |       |
| 965  | .984752  | .984797  | .984842  | .984887  | .984932  | 45 |       |
| 966  | .985202  | .985246  | .985292  | .985337  | .985382  | 45 |       |
| 967  | .985651  | .985696  | .985741  | .985786  | .985830  | 45 |       |
| 968  | 2.986100 | 2.986144 | 2.986189 | 2.986234 | 2.986279 | 45 |       |
| 969  | .986548  | .986592  | .986637  | .986682  | .986727  | 45 |       |
| 970  | .986995  | .987040  | .987085  | .987130  | .987174  | 45 |       |
| 971  | .987443  | .987487  | .987532  | .987577  | .987622  | 45 |       |
| 972  | .987890  | .987834  | .987979  | .988024  | .988065  | 45 |       |
| 973  | .988336  | .988381  | .988425  | .988470  | .988514  | 45 |       |
| 974  | 2.988782 | 2.988826 | 2.988871 | .988915  | 2.988960 | 45 |       |
| 975  | .989227  | .989272  | .989316  | .989361  | .989405  | 45 |       |
| 976  | .989672  | .989717  | .989761  | .989806  | .989850  | 44 |       |
| 977  | 990117   | .990161  | .990206  | .990250  | .990294  | 44 |       |
| 978  | .990561  | .990605  | .990650  | .990694  | .990738  | 44 |       |
| 979  | .991004  | .991049  | .991093  | .991137  | .991182  | 44 |       |
| 980  | 2.991448 | 2.991492 | 2.991536 | 2.991580 | 2.991625 | 44 |       |
| 981  | .991890  | .991934  | .991979  | .992023  | .992067  | 44 |       |
| 982  | .992333  | .992377  | .992421  | .992465  | .992509  | 44 |       |
| 983  | .992774  | .992818  | .992863  | .992907  | .992951  | 44 |       |
| 984  | .993216  | .993260  | .993304  | .993348  | .993392  | 44 |       |
| 985  | .993657  | .993701  | .993745  | .993789  | .993833  | 44 |       |
| 986  | 2.994097 | 2.994141 | 2.994185 | 2.994229 | 2.994273 | 44 |       |
| 987  | .994537  | .994581  | .994625  | .994669  | .994713  | 44 |       |
| 988  | .994977  | .995021  | .995064  | .995108  | .995152  | 44 |       |
| 989  | .995416  | .995460  | .995504  | .995547  | .995591  | 44 |       |
| 990  | .995854  | .995898  | .995942  | .995986  | .996030  | 44 |       |
| 991  | .996293  | .996336  | .996380  | .996424  | .996468  | 44 |       |
| 992  | 2.996730 | 2.996774 | 2.996818 | 2.996862 | 2.996905 | 44 |       |
| 993  | .997168  | .997212  | .997255  | .997299  | .997343  | 44 |       |
| 994  | .997605  | .997648  | .997692  | .997735  | .999779  | 44 |       |
| 995  | .998041  | .998085  | .998128  | .998172  | .998216  | 44 |       |
| 996  | .998477  | .998521  | .998564  | .998608  | .998652  | 44 |       |
| 997  | .998913  | .998956  | .999000  | .999043  | .999087  | 44 |       |
| 998  | .999348  | .999392  | .999435  | .999478  | .999522  | 44 |       |
| 999  | .999783  | .999826  | .999870  | .999913  | .999957  | 43 |       |

A Table of Artificial Sines,

o Degree:

| Min. | Sine.    | Tang.    | Secant.   | Min. |
|------|----------|----------|-----------|------|
| 0    | 0.000000 | 0.000000 | Infinite. | 60   |
| 1    | 6.453726 | 9.999999 | 6.463725  | 59   |
| 2    | 6.764756 | 9.999999 | 6.764756  | 58   |
| 3    | 6.940847 | 9.999999 | 6.940847  | 57   |
| 4    | 7.055786 | 9.999999 | 7.065786  | 56   |
| 5    | 7.162696 | 9.999999 | 7.162695  | 55   |
| 6    | 7.241877 | 9.999995 | 7.241878  | 54   |
| 7    | 7.308824 | 9.999999 | 7.308825  | 53   |
| 8    | 7.366816 | 9.999999 | 7.366817  | 52   |
| 9    | 7.417058 | 9.999998 | 7.417070  | 51   |
| 10   | 7.463725 | 9.999998 | 7.463727  | 50   |
| 11   | 7.505118 | 9.999998 | 7.505120  | 49   |
| 12   | 7.542906 | 9.999997 | 7.542909  | 48   |
| 13   | 7.577668 | 9.999997 | 7.577671  | 47   |
| 14   | 7.609853 | 9.999996 | 7.609857  | 46   |
| 15   | 7.639816 | 9.999995 | 7.639820  | 45   |
| 16   | 7.667844 | 9.999995 | 7.667849  | 44   |
| 17   | 7.694173 | 9.999995 | 7.694179  | 43   |
| 18   | 7.718997 | 9.999994 | 7.719003  | 42   |
| 19   | 7.742477 | 9.999992 | 7.742484  | 41   |
| 20   | 7.764754 | 9.999992 | 7.764761  | 40   |
| 21   | 7.785943 | 9.999992 | 7.785951  | 39   |
| 22   | 7.806146 | 9.999991 | 7.806155  | 38   |
| 23   | 7.825451 | 9.999990 | 7.825460  | 37   |
| 24   | 7.843034 | 9.999989 | 7.843044  | 36   |
| 25   | 7.861652 | 9.999988 | 7.861674  | 35   |
| 26   | 7.878695 | 9.999988 | 7.878708  | 34   |
| 27   | 7.895085 | 9.999987 | 7.895099  | 33   |
| 28   | 7.910879 | 9.999986 | 7.910894  | 32   |
| 29   | 7.926119 | 9.999984 | 7.926134  | 31   |
| 30   | 7.940817 | 9.999983 | 7.940848  | 30   |
|      | Sine.    | Tang.    | Secant.   |      |
|      |          |          |           |      |

89 Degrees.

# Tangents and Secants.

*c Degree.*

| Min. | Sine.    | Tang.    |          | Secant.   |                        |
|------|----------|----------|----------|-----------|------------------------|
| 30   | 7.940842 | 9.999983 | 7.940858 | 12.059142 | 10.000016 12.059158 30 |
| 31   | 7.955082 | 9.999982 | 7.955100 | 12.044900 | 10.000018 12.044918 29 |
| 32   | 7.968700 | 9.999981 | 7.968889 | 12.031111 | 10.000019 12.031130 28 |
| 33   | 7.982233 | 9.999980 | 7.982253 | 12.017747 | 10.000020 12.017767 27 |
| 34   | 7.995198 | 9.999979 | 7.995219 | 12.004781 | 10.000021 12.004802 26 |
| 35   | 8.007787 | 9.999977 | 8.007809 | 11.992191 | 10.000022 11.992213 25 |
| 36   | 8.020021 | 9.999976 | 8.020044 | 11.979955 | 10.000024 11.979979 24 |
| 37   | 8.031919 | 9.999975 | 8.031945 | 11.968055 | 10.000025 11.968080 23 |
| 38   | 8.043501 | 9.999973 | 8.043527 | 11.956473 | 10.000026 11.956499 22 |
| 39   | 8.054781 | 9.999972 | 8.054809 | 11.945191 | 10.000028 11.945210 21 |
| 40   | 8.065776 | 9.999971 | 8.065806 | 11.934194 | 10.000029 11.934224 20 |
| 41   | 8.076500 | 9.999969 | 8.076531 | 11.923469 | 10.000031 11.923500 19 |
| 42   | 8.086965 | 9.999968 | 8.086997 | 11.913003 | 10.000032 11.913035 18 |
| 43   | 8.097183 | 9.999966 | 8.097217 | 11.902783 | 10.000034 11.902817 17 |
| 44   | 8.107147 | 9.999964 | 8.107202 | 11.892797 | 10.000036 11.892833 16 |
| 45   | 8.116926 | 9.999963 | 8.116983 | 11.883037 | 10.000037 11.883074 15 |
| 46   | 8.126471 | 9.999961 | 8.126510 | 11.873490 | 10.000039 11.873529 14 |
| 47   | 8.135810 | 9.999959 | 8.135851 | 11.864149 | 10.000041 11.864190 13 |
| 48   | 8.144953 | 9.999958 | 8.144996 | 11.855004 | 10.000042 11.855047 12 |
| 49   | 8.153907 | 9.999956 | 8.153952 | 11.846048 | 10.000044 11.846092 11 |
| 50   | 8.162681 | 9.999954 | 8.162727 | 11.837273 | 10.000046 11.837319 10 |
| 51   | 8.171280 | 9.999952 | 8.171328 | 11.828672 | 10.000048 11.828720 9  |
| 52   | 8.179713 | 9.999950 | 8.179763 | 11.820237 | 10.000050 11.820287 8  |
| 53   | 8.187985 | 9.999948 | 8.188036 | 11.811964 | 10.000052 11.812015 7  |
| 54   | 8.196103 | 9.999946 | 8.196156 | 11.803844 | 10.000054 11.802808 6  |
| 55   | 8.204070 | 9.999944 | 8.204126 | 11.795874 | 10.000056 11.795930 5  |
| 56   | 8.211895 | 9.999942 | 8.211953 | 11.788047 | 10.000058 11.788105 4  |
| 57   | 8.219581 | 9.999940 | 8.219641 | 11.780359 | 10.000060 11.780419 3  |
| 58   | 8.227133 | 9.999938 | 8.227195 | 11.772805 | 10.000062 11.772866 2  |
| 59   | 8.234557 | 9.999936 | 8.234621 | 11.765379 | 10.000064 11.765443 1  |
| 60   | 8.241835 | 9.999934 | 8.241921 | 11.758078 | 10.000066 11.758145 0  |
|      | Sine.    |          | Tang.    |           | Secant.                |
|      |          |          |          |           | Min.                   |

89 Degrees.

A Table of Artificial Sines,

I Degree.

| M  | Sine.    | Tang.    | Secant.                                   |
|----|----------|----------|---|
| 0  | 3.241855 | 9.999934 | 8.241921 11.758078 10.000066 11.758145 60 |
| 1  | 3.249033 | 9.999932 | 8.249101 11.750898 10.000068 11.750967 59 |
| 2  | 3.256094 | 9.999929 | 8.256165 11.743835 10.000071 11.743906 58 |
| 3  | 3.263042 | 9.999927 | 8.263115 11.736885 10.000073 11.730958 57 |
| 4  | 3.269881 | 9.999925 | 8.269956 11.720044 10.000075 11.720119 56 |
| 5  | 8.276614 | 9.999922 | 8.276691 11.723309 10.000078 11.723386 55 |
| 6  | 8.283243 | 9.999920 | 8.283323 11.716677 10.000080 11.716757 54 |
| 7  | 8.289773 | 9.999917 | 8.289856 11.710144 10.000082 11.710227 53 |
| 8  | 8.296207 | 9.999915 | 8.296292 11.703708 10.000085 11.703793 52 |
| 9  | 8.302546 | 9.999912 | 8.302622 11.697366 10.000087 11.697454 51 |
| 10 | 8.308794 | 9.999910 | 8.308884 11.691116 10.000090 11.691206 50 |
| 11 | 8.314954 | 9.999907 | 8.315046 11.684954 10.000093 11.685046 49 |
| 12 | 8.321027 | 9.999905 | 8.321122 11.678878 10.000095 11.678973 48 |
| 13 | 8.327016 | 9.999902 | 8.327114 11.672886 10.000098 11.672984 47 |
| 14 | 8.332924 | 9.999899 | 8.333025 11.666975 10.000101 11.667076 46 |
| 15 | 8.338753 | 9.999897 | 8.338856 11.661144 10.000103 11.661247 45 |
| 16 | 8.344504 | 9.999894 | 8.344612 11.655389 10.000106 11.655496 44 |
| 17 | 8.350180 | 9.999891 | 8.350289 11.649710 10.000109 11.649819 43 |
| 18 | 8.355783 | 9.999888 | 8.355895 11.644105 10.000112 11.644216 42 |
| 19 | 8.361315 | 9.999885 | 8.361420 11.638570 10.000115 11.638685 41 |
| 20 | 8.366777 | 9.999882 | 8.366894 11.633105 10.000118 11.633223 40 |
| 21 | 8.372171 | 9.999879 | 8.372291 11.627708 10.000121 11.627829 39 |
| 22 | 8.377499 | 9.999876 | 8.377622 11.622378 10.000124 11.622501 38 |
| 23 | 8.382762 | 9.999873 | 8.382889 11.617111 10.000127 11.617238 37 |
| 24 | 8.387962 | 9.999870 | 8.388092 11.611908 10.000130 11.612038 36 |
| 25 | 8.393101 | 9.999867 | 8.393234 11.606766 10.000133 11.606899 35 |
| 26 | 8.398179 | 9.999864 | 8.398315 11.601685 10.000136 11.601821 34 |
| 27 | 8.403199 | 9.999861 | 8.403338 11.596662 10.000139 11.596801 33 |
| 28 | 8.408161 | 9.999858 | 8.408304 11.591696 10.000142 11.591839 32 |
| 29 | 8.413068 | 9.999854 | 8.413213 11.586787 10.000146 11.586931 31 |
| 30 | 8.417919 | 9.999851 | 8.418068 11.581932 10.000149 11.582081 30 |
|    | Sine.    | Tang.    | Secant.                                   |

Tangents and Secants,

I Degree.

| Min. | Sine.    |          | Tang.    |           | Secant.   |           | Min. |
|------|----------|----------|----------|-----------|-----------|-----------|------|
| 30   | 8.417919 | 9.999851 | 8.418068 | 11.581932 | 10.000149 | 11.582081 | 30   |
| 31   | 8.422717 | 9.999848 | 8.422869 | 11.577131 | 10.000152 | 11.577283 | 29   |
| 32   | 8.427462 | 9.999844 | 8.427618 | 11.572382 | 10.000155 | 11.572538 | 28   |
| 33   | 8.432156 | 9.999841 | 8.432315 | 11.567685 | 10.000159 | 11.567844 | 27   |
| 34   | 8.436800 | 9.999838 | 8.436962 | 11.563038 | 10.000162 | 11.563200 | 26   |
| 35   | 8.441394 | 9.999834 | 8.441560 | 11.558440 | 10.000166 | 11.558606 | 25   |
| 36   | 8.445941 | 9.999831 | 8.446110 | 11.553890 | 10.000169 | 11.554059 | 24   |
| 37   | 8.450440 | 9.999827 | 8.450613 | 11.549387 | 10.000173 | 11.549560 | 23   |
| 38   | 8.454893 | 9.999823 | 8.455070 | 11.544930 | 10.000176 | 11.545107 | 21   |
| 39   | 8.459301 | 9.999820 | 8.459481 | 11.540519 | 10.000180 | 11.540699 | 22   |
| 40   | 8.463664 | 9.999816 | 8.463849 | 11.536151 | 10.000184 | 11.536335 | 20   |
| 41   | 8.467985 | 9.999812 | 8.468172 | 11.531827 | 10.000187 | 11.532015 | 19   |
| 42   | 8.472263 | 9.999809 | 8.472454 | 11.527546 | 10.000191 | 11.527737 | 18   |
| 43   | 8.476498 | 9.999805 | 8.476693 | 11.523307 | 10.000195 | 11.523502 | 17   |
| 44   | 8.480693 | 9.999801 | 8.480892 | 11.519108 | 10.000199 | 11.519307 | 16   |
| 45   | 8.484848 | 9.999797 | 8.485050 | 11.514949 | 10.000203 | 11.515152 | 15   |
| 46   | 8.488963 | 9.999793 | 8.489170 | 11.510830 | 10.000206 | 11.511037 | 14   |
| 47   | 8.493049 | 9.999790 | 8.493250 | 11.506750 | 10.000210 | 11.506960 | 13   |
| 48   | 8.497078 | 9.999786 | 8.497293 | 11.502707 | 10.000214 | 11.502922 | 12   |
| 49   | 8.501080 | 9.999782 | 8.501298 | 11.498702 | 10.000218 | 11.408920 | 11   |
| 50   | 8.505045 | 9.999778 | 8.505267 | 11.494733 | 10.000222 | 11.494955 | 10   |
| 51   | 8.508974 | 9.999774 | 8.509200 | 11.490800 | 10.000226 | 11.491026 | 9    |
| 52   | 8.512867 | 9.999769 | 8.513098 | 11.486902 | 10.000230 | 11.487133 | 8    |
| 53   | 8.516726 | 9.999765 | 8.516961 | 11.483039 | 10.000235 | 11.483274 | 7    |
| 54   | 8.520551 | 9.999761 | 8.520790 | 11.479210 | 10.000239 | 11.479449 | 6    |
| 55   | 8.524343 | 9.999757 | 8.524580 | 11.475414 | 10.000243 | 11.475657 | 5    |
| 56   | 8.528102 | 9.999753 | 8.528349 | 11.471651 | 10.000247 | 11.471898 | 4    |
| 57   | 8.531828 | 9.999748 | 8.532080 | 11.467920 | 10.000252 | 11.468172 | 3    |
| 58   | 8.535523 | 9.999744 | 8.535779 | 11.464221 | 10.000256 | 11.464477 | 2    |
| 59   | 8.539186 | 9.999740 | 8.539447 | 11.460553 | 10.000260 | 11.460814 | 1    |
| 60   | 8.542819 | 9.999735 | 8.543084 | 11.456916 | 10.000265 | 11.457181 | 0    |
|      | Sine.    |          | Tang.    |           | Secant.   |           | Min. |

88 Degrees.

# A Table of Artificial Sines,

2 Degrees.

| Min. | Sine.    | Tang.    |          | Secant.   |           |
|------|----------|----------|----------|-----------|-----------|
| 0    | 8.542819 | 9.999735 | 8.543084 | 10.000265 | 11.457181 |
| 1    | 8.546422 | 9.999731 | 8.546691 | 10.000269 | 11.453578 |
| 2    | 8.549995 | 9.999726 | 8.550268 | 10.000273 | 11.450005 |
| 3    | 8.553539 | 9.999722 | 8.553817 | 10.000278 | 11.446446 |
| 4    | 8.557054 | 9.999717 | 8.557426 | 10.000283 | 11.442945 |
| 5    | 8.560540 | 9.999713 | 8.560828 | 10.000287 | 11.439450 |
| 6    | 8.563999 | 9.999708 | 8.564291 | 10.000292 | 11.436000 |
| 7    | 8.567431 | 9.999704 | 8.567727 | 10.000296 | 11.432569 |
| 8    | 8.570836 | 9.999699 | 8.571137 | 10.000301 | 11.429164 |
| 9    | 8.574214 | 9.999694 | 8.574520 | 10.000306 | 11.425786 |
| 10   | 8.577566 | 9.999689 | 8.577877 | 10.000311 | 11.422435 |
| 11   | 8.580892 | 9.999685 | 8.581208 | 10.000315 | 11.419030 |
| 12   | 8.584193 | 9.999680 | 8.584514 | 10.000320 | 11.415607 |
| 13   | 8.587469 | 9.999675 | 8.587794 | 10.000325 | 11.412531 |
| 14   | 8.590721 | 9.999670 | 8.591041 | 10.000330 | 11.409270 |
| 15   | 8.593948 | 9.999665 | 8.594283 | 10.000335 | 11.406052 |
| 16   | 8.597152 | 9.999660 | 8.597492 | 10.000340 | 11.402848 |
| 17   | 8.600332 | 9.999655 | 8.600677 | 10.000345 | 11.399868 |
| 18   | 8.603489 | 9.999650 | 8.603830 | 10.000350 | 11.396511 |
| 19   | 8.606623 | 9.999645 | 8.606978 | 10.000355 | 11.393377 |
| 20   | 8.609734 | 9.999640 | 8.610094 | 10.000360 | 11.390266 |
| 21   | 8.612823 | 9.999635 | 8.613189 | 10.000365 | 11.387176 |
| 22   | 8.615891 | 9.999629 | 8.616262 | 10.000371 | 11.384109 |
| 23   | 8.618937 | 9.999624 | 8.619313 | 10.000376 | 11.381063 |
| 24   | 8.621962 | 9.999619 | 8.622242 | 10.000381 | 11.378038 |
| 25   | 8.624955 | 9.999614 | 8.625252 | 10.000386 | 11.375035 |
| 26   | 8.627948 | 9.999608 | 8.628340 | 10.000392 | 11.372052 |
| 27   | 8.630911 | 9.999603 | 8.631308 | 10.000397 | 11.369089 |
| 28   | 8.633854 | 9.999597 | 8.634256 | 10.000403 | 11.366146 |
| 29   | 8.636776 | 9.999592 | 8.637184 | 10.000408 | 11.363224 |
| 30   | 8.639680 | 9.999586 | 8.640092 | 10.000413 | 11.360220 |
|      | Sine.    |          | Tang.    |           | Secant.   |

87 Degrees.

## Tangents and Secants,

2 Degrees.

| Sine.    | Tang.    | Secant.  |           |
|----------|----------|----------|-----------|
| 8.639680 | 9.999586 | 8.640093 | 11.359907 |
| 8.642563 | 9.999581 | 8.642982 | 11.357017 |
| 8.645428 | 9.999575 | 8.645853 | 11.354147 |
| 8.648274 | 9.999570 | 8.648704 | 11.351296 |
| 8.651102 | 9.999564 | 8.651537 | 11.348462 |
| 8.653911 | 9.999558 | 8.654352 | 11.345648 |
| 8.656702 | 9.999553 | 8.657149 | 11.342851 |
| 8.659475 | 9.999547 | 8.659928 | 11.340072 |
| 8.662230 | 9.999541 | 8.662689 | 11.337311 |
| 8.664968 | 9.999535 | 8.665433 | 11.334567 |
| 8.667689 | 9.999529 | 8.668160 | 11.331840 |
| 8.670393 | 9.999524 | 8.670870 | 11.329130 |
| 8.673080 | 9.999518 | 8.673563 | 11.326437 |
| 8.675751 | 9.999512 | 8.676239 | 11.323761 |
| 8.678405 | 0.009506 | 8.678000 | 11.321100 |
| 8.681043 | 9.999500 | 8.681544 | 11.318456 |
| 8.683665 | 9.999493 | 8.684172 | 11.315828 |
| 8.686272 | 9.999487 | 8.686784 | 11.313216 |
| 8.688863 | 9.999481 | 8.689381 | 11.310619 |
| 8.691438 | 9.999475 | 8.691693 | 11.308037 |
| 8.693998 | 9.999469 | 8.694529 | 11.305471 |
| 8.696543 | 9.999462 | 8.697081 | 11.302919 |
| 8.699073 | 9.999456 | 8.699617 | 11.300383 |
| 8.701589 | 9.999450 | 8.702139 | 11.297861 |
| 8.704090 | 9.999443 | 8.704646 | 11.295353 |
| 8.706577 | 9.999437 | 8.707139 | 11.292860 |
| 8.709049 | 9.999431 | 8.709618 | 11.290381 |
| 8.711507 | 9.999424 | 8.712083 | 11.287917 |
| 8.713952 | 9.999418 | 8.714534 | 11.285466 |
| 8.716383 | 9.999411 | 8.716972 | 11.283028 |
| 8.718800 | 9.999404 | 8.719396 | 11.280604 |
| Sine.    | Tang.    | Secant.  |           |

87 Degrees.

A Table of Artificial Sines,

3 Degrees.

| Min. | Sine.    | Tang.    | Secant.  | Min.        |
|------|----------|----------|----------|-------------|
| 0    | 3.718800 | 9.999404 | 8.719396 | 11.28120060 |
| 1    | 3.721204 | 9.999398 | 8.721806 | 11.27879659 |
| 2    | 3.723595 | 9.999391 | 8.724203 | 11.275796   |
| 3    | 3.725972 | 9.999384 | 8.726588 | 11.273412   |
| 4    | 3.728337 | 9.999378 | 8.728959 | 11.27104    |
| 5    | 3.730688 | 9.999371 | 8.731317 | 11.268683   |
| 6    | 3.733027 | 9.999364 | 8.733663 | 11.266337   |
| 7    | 3.735353 | 9.999357 | 8.735996 | 11.264004   |
| 8    | 3.737667 | 9.999350 | 8.738317 | 11.261683   |
| 9    | 3.739969 | 9.999343 | 8.740626 | 11.259374   |
| 10   | 3.742259 | 9.999336 | 8.742922 | 11.257078   |
| 11   | 3.744536 | 9.999329 | 8.745207 | 11.254793   |
| 12   | 3.746801 | 9.999322 | 8.747479 | 11.252521   |
| 13   | 3.749055 | 9.999315 | 8.749740 | 11.250260   |
| 14   | 3.751297 | 9.999308 | 8.751989 | 11.24801    |
| 15   | 3.753528 | 9.999301 | 8.754227 | 11.245773   |
| 16   | 3.755747 | 9.999294 | 8.756453 | 11.243547   |
| 17   | 3.757955 | 9.999286 | 8.758668 | 11.241332   |
| 18   | 3.760151 | 9.999279 | 8.760872 | 11.239128   |
| 19   | 3.762227 | 9.999272 | 8.763065 | 11.236935   |
| 20   | 3.764511 | 9.999265 | 8.765246 | 11.234753   |
| 21   | 3.766675 | 9.999257 | 8.767417 | 11.232582   |
| 22   | 3.768827 | 9.999250 | 8.769578 | 11.230422   |
| 23   | 3.770970 | 9.999242 | 8.771727 | 11.228273   |
| 24   | 3.772101 | 9.999235 | 8.773866 | 11.226133   |
| 25   | 3.775223 | 9.999227 | 8.775995 | 11.224005   |
| 26   | 3.777333 | 9.999220 | 8.778114 | 11.221886   |
| 27   | 3.779434 | 9.999212 | 8.780222 | 11.219778   |
| 28   | 3.781524 | 9.999205 | 8.782320 | 11.217680   |
| 29   | 3.783605 | 9.999197 | 8.784408 | 11.215592   |
| 30   | 3.785675 | 9.999189 | 8.786486 | 11.213514   |
|      | Sine.    | Tang.    | Secant.  | Min.        |

86 Degrees.

# Tangents and Secants.

3 Degrees.

| Sine.    | Tang.    | Secant.  |
|----------|----------|----------|
| 8.785675 | 8.999189 | 8.786486 |
| 8.787736 | 9.999181 | 8.788554 |
| 8.789787 | 9.999174 | 8.790613 |
| 8.791828 | 9.999166 | 8.792662 |
| 8.793859 | 9.999158 | 8.794701 |
| 8.795881 | 9.999150 | 8.796732 |
| 8.797894 | 9.999142 | 8.798752 |
| 8.799897 | 9.999134 | 8.800762 |
| 8.801891 | 9.999126 | 8.802765 |
| 8.803876 | 9.999118 | 8.804758 |
| 8.805852 | 9.999110 | 8.806742 |
| 8.807819 | 9.999102 | 8.808717 |
| 8.809777 | 9.999094 | 8.810683 |
| 8.811726 | 9.999086 | 8.812641 |
| 8.813667 | 9.999077 | 8.814589 |
| 8.815598 | 9.999069 | 8.816529 |
| 8.817522 | 9.999061 | 8.818461 |
| 8.819436 | 9.999052 | 8.820384 |
| 8.821342 | 9.999044 | 8.822298 |
| 8.823240 | 9.999036 | 8.824205 |
| 8.825130 | 9.999027 | 8.826103 |
| 8.827011 | 9.999019 | 8.827992 |
| 8.828884 | 9.999010 | 8.829874 |
| 8.830749 | 9.999002 | 8.831748 |
| 8.832607 | 9.998993 | 8.833612 |
| 8.834456 | 9.998984 | 8.835471 |
| 8.836297 | 9.998976 | 8.837321 |
| 8.838130 | 9.998967 | 8.839163 |
| 8.839956 | 9.998958 | 8.840998 |
| 8.841774 | 9.998950 | 8.842824 |
| 8.843584 | 9.998941 | 8.844644 |
| Sine.    | Tang.    | Secant.  |

89 Degrees.

A Table of Artificial Sines,

4 Degrees.

| Min. | Sine.    | Tang.    | Secant.  |
|------|----------|----------|----------|
| 0    | 8.843584 | 9.998941 | 8.844644 |
| 1    | 8.845387 | 9.998932 | 8.846455 |
| 2    | 8.847183 | 9.998923 | 8.848260 |
| 3    | 8.848971 | 9.998914 | 8.850056 |
| 4    | 8.850751 | 9.998905 | 8.851846 |
| 5    | 8.852524 | 9.998896 | 8.853628 |
| 6    | 8.854290 | 9.998887 | 8.855403 |
| 7    | 8.856049 | 9.998878 | 8.857171 |
| 8    | 8.857801 | 9.998869 | 8.858932 |
| 9    | 8.859546 | 9.998860 | 8.860686 |
| 10   | 8.861283 | 9.998851 | 8.862433 |
| 11   | 8.863014 | 9.998841 | 8.864172 |
| 12   | 8.864738 | 9.998832 | 8.865905 |
| 13   | 8.866454 | 9.998823 | 8.867632 |
| 14   | 8.868165 | 9.998812 | 8.869351 |
| 15   | 8.869868 | 9.998804 | 8.871064 |
| 16   | 8.871565 | 9.998795 | 8.872770 |
| 17   | 8.873253 | 9.998785 | 8.874469 |
| 18   | 8.874938 | 9.998776 | 8.876162 |
| 19   | 8.876615 | 9.998766 | 8.877849 |
| 20   | 8.878285 | 9.998757 | 8.879529 |
| 21   | 8.879949 | 9.998747 | 8.881202 |
| 22   | 8.881607 | 9.998737 | 8.882869 |
| 23   | 8.883258 | 9.998728 | 8.884530 |
| 24   | 8.884903 | 9.998718 | 8.886185 |
| 25   | 8.886542 | 9.998708 | 8.887833 |
| 26   | 8.888174 | 9.998699 | 8.889476 |
| 27   | 8.889801 | 9.998689 | 8.891112 |
| 28   | 8.891421 | 9.998679 | 8.892742 |
| 29   | 8.893035 | 9.998669 | 8.894366 |
| 30   | 8.894642 | 9.998650 | 8.895984 |
|      | Sine.    | Tang.    | Secant.  |

85 Degrees.

Tangents and Secants,

4 Degrees.

| Z<br>P | Sine.    |          | Tang.    |           | Secant.   |              |
|--------|----------|----------|----------|-----------|-----------|--------------|
| 1560   | 8.894643 | 9.998659 | 8.895984 | 11.104016 | 10.001341 | 11.105357 3° |
| 1359   | 8.896245 | 9.998649 | 8.897596 | 11.102404 | 10.001351 | 11.103754 29 |
| 1758   | 8.897842 | 9.998639 | 8.899203 | 11.100797 | 10.001361 | 11.102158 28 |
| 2957   | 8.899432 | 9.998629 | 8.900803 | 11.099197 | 10.001371 | 11.100568 27 |
| 4956   | 8.901017 | 9.998619 | 8.902398 | 11.097602 | 10.001381 | 11.098983 26 |
| 7555   | 8.902595 | 9.998609 | 8.903987 | 11.096013 | 10.001391 | 11.097404 25 |
| 9954   | 8.904168 | 9.998599 | 8.905570 | 11.094430 | 10.001401 | 11.095831 24 |
| 5153   | 8.905736 | 9.998589 | 8.907147 | 11.092853 | 10.001411 | 11.094264 23 |
| 9952   | 8.907297 | 9.998578 | 8.908719 | 11.091281 | 10.001422 | 11.092702 22 |
| 4451   | 8.908853 | 9.998568 | 8.910285 | 11.089715 | 10.001432 | 11.091146 21 |
| 6550   | 8.910404 | 9.998558 | 8.911846 | 11.088154 | 10.001442 | 11.089596 20 |
| 6449   | 8.911949 | 9.998547 | 8.913401 | 11.086599 | 10.001452 | 11.088051 19 |
| 2448   | 8.913488 | 9.998537 | 8.914951 | 11.085049 | 10.001463 | 11.086512 18 |
| 5447   | 8.915022 | 9.998527 | 8.916495 | 11.083505 | 10.001473 | 11.084978 17 |
| 5446   | 8.916550 | 9.998516 | 8.918034 | 11.081966 | 10.001484 | 11.083450 16 |
| 2445   | 8.918073 | 9.998506 | 8.919567 | 11.080432 | 10.001494 | 11.081927 15 |
| 5444   | 8.919591 | 9.998495 | 8.921095 | 11.078904 | 10.001505 | 11.080499 14 |
| 5443   | 8.921103 | 9.998485 | 8.922619 | 11.077381 | 10.001515 | 11.078897 13 |
| 1442   | 8.922610 | 9.998474 | 8.924136 | 11.075864 | 10.001526 | 11.077389 12 |
| 5441   | 8.924112 | 9.998464 | 8.925649 | 11.074351 | 10.001536 | 11.075888 11 |
| 4440   | 8.925609 | 9.998453 | 8.927156 | 11.072854 | 10.001547 | 11.074391 10 |
| 039    | 8.927100 | 9.998442 | 8.928658 | 11.071342 | 10.001558 | 11.072900 9  |
| 2338   | 8.928587 | 9.998431 | 8.930155 | 11.069845 | 10.001568 | 11.071413 8  |
| 1337   | 8.930068 | 9.998421 | 8.931647 | 11.068353 | 10.001579 | 11.069932 7  |
| 6336   | 8.931544 | 9.998410 | 8.933134 | 11.066856 | 10.001590 | 11.068455 6  |
| 8335   | 8.933015 | 9.998399 | 8.934616 | 11.065384 | 10.001601 | 11.066985 5  |
| 5334   | 8.934481 | 9.998388 | 8.935093 | 11.063907 | 10.001612 | 11.065519 4  |
| 9333   | 8.935942 | 9.998377 | 8.937555 | 11.062430 | 10.001623 | 11.064758 3  |
| 9332   | 8.937398 | 9.998366 | 8.939032 | 11.060968 | 10.001634 | 11.062602 2  |
| 4331   | 8.938850 | 9.998355 | 8.940494 | 11.059506 | 10.001645 | 11.061150 1  |
| 6330   | 8.940296 | 9.998344 | 8.941952 | 11.058048 | 10.001656 | 11.059704 0  |
|        | Sine.    |          | Tang.    |           | Secant.   | M            |

85 Degrees.

A Table of Artificial Sines,

5 Degrees.

| M.<br>S. | Sine.    |          | Tang.    |           | Secant.   |             |
|----------|----------|----------|----------|-----------|-----------|-------------|
| 0        | 8.940296 | 9.998344 | 8.941952 | 11.058048 | 10.001656 | 11.05970460 |
| 1        | 8.941738 | 9.998333 | 8.943404 | 11.056596 | 10.001667 | 11.05826259 |
| 2        | 8.943174 | 9.998322 | 8.944852 | 11.055148 | 10.001678 | 11.05682958 |
| 3        | 8.944606 | 9.998311 | 8.946295 | 11.053705 | 10.001689 | 11.05539457 |
| 4        | 8.946033 | 9.998300 | 8.947734 | 11.052266 | 10.001700 | 11.05396656 |
| 5        | 8.947456 | 9.998288 | 8.949168 | 11.050832 | 10.001711 | 11.05254455 |
| 6        | 8.948874 | 9.998277 | 8.950597 | 11.049403 | 10.001723 | 11.05112054 |
| 7        | 8.950287 | 9.998266 | 8.952021 | 11.047979 | 10.001734 | 11.04971353 |
| 8        | 8.951696 | 9.998255 | 8.953441 | 11.046559 | 10.001745 | 11.04830452 |
| 9        | 8.953100 | 9.998243 | 8.954856 | 11.045144 | 10.001757 | 11.04690051 |
| 10       | 8.954499 | 9.998232 | 8.956267 | 11.043733 | 10.001768 | 11.04550150 |
| 11       | 8.955896 | 9.998220 | 8.957673 | 11.042326 | 10.001780 | 11.04410649 |
| 12       | 8.957284 | 9.998209 | 8.959075 | 11.040925 | 10.001791 | 11.04271648 |
| 13       | 8.958670 | 9.998197 | 8.960473 | 11.039527 | 10.001803 | 11.04133047 |
| 14       | 8.960052 | 9.998186 | 8.961886 | 11.038134 | 10.001814 | 11.03994846 |
| 15       | 8.961429 | 9.998174 | 8.963254 | 11.036745 | 10.001826 | 11.03857145 |
| 16       | 8.962801 | 9.998163 | 8.964639 | 11.035361 | 10.001837 | 11.03719944 |
| 17       | 8.964170 | 9.998151 | 8.966019 | 11.033981 | 10.001849 | 11.03583043 |
| 18       | 8.965534 | 9.998139 | 8.967394 | 11.032606 | 10.001861 | 11.03446642 |
| 19       | 8.966893 | 9.998127 | 8.968766 | 11.031234 | 10.001872 | 11.03310741 |
| 20       | 8.968249 | 9.998116 | 8.970133 | 11.029867 | 10.001884 | 11.03175140 |
| 21       | 8.969600 | 9.998105 | 8.971496 | 11.028504 | 10.001896 | 11.03040039 |
| 22       | 8.970947 | 9.998092 | 8.972855 | 11.027145 | 10.001908 | 11.02905338 |
| 23       | 8.972285 | 9.998080 | 8.974209 | 11.025791 | 10.001920 | 11.02771037 |
| 24       | 8.973628 | 9.998068 | 8.975560 | 11.024440 | 10.001932 | 11.02637236 |
| 25       | 8.974962 | 9.998056 | 8.976906 | 11.023094 | 10.001944 | 11.02503835 |
| 26       | 8.976293 | 9.998044 | 8.978248 | 11.021751 | 10.001956 | 11.02370734 |
| 27       | 8.977615 | 9.998032 | 8.979586 | 11.020413 | 10.001968 | 11.02238133 |
| 28       | 8.978941 | 9.998020 | 8.980921 | 11.019079 | 10.001980 | 11.02105932 |
| 29       | 8.980255 | 9.998008 | 8.982251 | 11.017749 | 10.001992 | 11.01974131 |
| 30       | 8.981572 | 9.997996 | 8.983577 | 11.016423 | 10.002004 | 11.01842730 |
|          |          | Sine.    |          | Tang.     |           | Secant.     |

84 Degrees.

## Tangents and Secants.

5 Degrees.

| Min. | Sine.    | Tang.    | Secant.  |           |
|------|----------|----------|----------|-----------|
| 30   | 8.981573 | 9.997996 | 8.983577 | 11.016423 |
| 31   | 8.982883 | 9.997984 | 8.984899 | 11.015101 |
| 32   | 8.984189 | 9.997972 | 8.986217 | 11.013783 |
| 33   | 8.985491 | 9.997959 | 8.987532 | 11.012468 |
| 34   | 8.986789 | 9.997947 | 8.988842 | 11.011158 |
| 35   | 8.988083 | 9.997935 | 8.990149 | 11.009851 |
| 36   | 8.989374 | 9.997922 | 8.991451 | 11.008549 |
| 37   | 8.990660 | 9.997910 | 8.992750 | 11.007250 |
| 38   | 8.991943 | 9.997897 | 8.994045 | 11.005955 |
| 39   | 8.993222 | 9.997885 | 8.995337 | 11.004663 |
| 40   | 8.994497 | 9.997872 | 8.996624 | 11.003376 |
| 41   | 8.995768 | 9.997859 | 8.997908 | 11.002092 |
| 42   | 8.997036 | 9.997847 | 8.999188 | 11.000812 |
| 43   | 8.998299 | 9.997835 | 9.000465 | 10.999535 |
| 44   | 8.999559 | 9.997822 | 9.001737 | 10.998262 |
| 45   | 9.000816 | 9.997809 | 9.003007 | 10.996993 |
| 46   | 9.002069 | 9.997797 | 9.004272 | 10.995728 |
| 47   | 9.003318 | 9.997784 | 9.005534 | 10.994466 |
| 48   | 9.004563 | 9.997771 | 9.006792 | 10.993208 |
| 49   | 9.005805 | 9.997758 | 9.008047 | 10.991953 |
| 50   | 9.007044 | 9.997745 | 9.009298 | 10.990702 |
| 51   | 9.008278 | 9.997732 | 9.010546 | 10.989454 |
| 52   | 9.009510 | 9.997719 | 9.011790 | 10.988210 |
| 53   | 9.010737 | 9.997706 | 9.013031 | 10.986969 |
| 54   | 9.011962 | 9.997693 | 9.014268 | 10.985732 |
| 55   | 9.013182 | 9.997680 | 9.015502 | 10.984498 |
| 56   | 9.014400 | 9.997667 | 9.016732 | 10.983267 |
| 57   | 9.015613 | 9.997654 | 9.017959 | 10.982041 |
| 58   | 9.016824 | 9.997641 | 9.019183 | 10.980817 |
| 59   | 9.018031 | 9.997628 | 9.020400 | 10.979597 |
| 60   | 9.019230 | 9.997614 | 9.021620 | 10.978380 |
|      | Sine.    | Tang.    | Secant.  | M.        |

84 Degrees.

# A Table of Artificial Sines,

6 Degrees.

| Min. | Sine.    | Tang.    |          | Secant.   |           |
|------|----------|----------|----------|-----------|-----------|
| 0    | 9.019235 | 9.997614 | 9.021620 | 10.978380 | 10.980765 |
| 1    | 9.020435 | 9.997601 | 9.022834 | 10.977166 | 10.979565 |
| 2    | 9.021632 | 9.997588 | 9.024044 | 10.975956 | 10.978368 |
| 3    | 9.022825 | 9.997574 | 9.025251 | 10.974749 | 10.977175 |
| 4    | 9.024016 | 9.997561 | 9.026455 | 10.973545 | 10.975984 |
| 5    | 9.025203 | 9.997547 | 9.027655 | 10.972345 | 10.974797 |
| 6    | 9.026386 | 9.997534 | 9.028852 | 10.971148 | 10.973613 |
| 7    | 9.027567 | 9.997520 | 9.030046 | 10.969954 | 10.972433 |
| 8    | 9.028744 | 9.997507 | 9.031237 | 10.968763 | 10.971256 |
| 9    | 9.029918 | 9.997493 | 9.032425 | 10.967575 | 10.970082 |
| 10   | 9.031089 | 9.997480 | 9.033609 | 10.966391 | 10.968914 |
| 11   | 9.032257 | 9.997466 | 9.034790 | 10.965209 | 10.967743 |
| 12   | 9.033421 | 9.997452 | 9.035969 | 10.964031 | 10.966579 |
| 13   | 9.034582 | 9.997439 | 9.037144 | 10.962856 | 10.965417 |
| 14   | 9.035741 | 9.997425 | 9.038316 | 10.961684 | 10.964259 |
| 15   | 9.036895 | 9.997411 | 9.039485 | 10.960515 | 10.963104 |
| 16   | 9.038048 | 9.997397 | 9.040651 | 10.959349 | 10.961952 |
| 17   | 9.039197 | 9.997383 | 9.041813 | 10.958187 | 10.960802 |
| 18   | 9.040342 | 9.997369 | 9.042973 | 10.957027 | 10.959658 |
| 19   | 9.041485 | 9.997355 | 9.044130 | 10.955870 | 10.958515 |
| 20   | 9.042625 | 9.997341 | 9.045284 | 10.954716 | 10.957375 |
| 21   | 9.043762 | 9.997327 | 9.046434 | 10.953566 | 10.956238 |
| 22   | 9.044895 | 9.997313 | 9.047582 | 10.952418 | 10.955105 |
| 23   | 9.046026 | 9.997299 | 9.048727 | 10.951272 | 10.953974 |
| 24   | 9.047154 | 9.997285 | 9.049869 | 10.950131 | 10.952846 |
| 25   | 9.048279 | 9.997271 | 9.051008 | 10.948992 | 10.951721 |
| 26   | 9.049400 | 9.997257 | 9.052144 | 10.947856 | 10.950599 |
| 27   | 9.050519 | 9.997242 | 9.053277 | 10.946723 | 10.949481 |
| 28   | 9.051635 | 9.997228 | 9.054407 | 10.945593 | 10.948365 |
| 29   | 9.052748 | 9.997214 | 9.055535 | 10.944465 | 10.947251 |
| 30   | 9.053850 | 9.997199 | 9.056653 | 10.943340 | 10.946141 |
|      | Sine.    | Tang.    |          | Secant.   |           |

## Tangents and Secants.

6 Degrees.

| Mi.<br>nu. | Sine.    | Tang.    | Secant.  |            |
|------------|----------|----------|----------|------------|
| 30         | 9.053859 | 9.997199 | 9.056659 | 10.943340  |
| 31         | 9.054966 | 9.997185 | 9.057781 | 10.942219  |
| 32         | 9.056071 | 9.997170 | 9.058900 | 10.941100  |
| 33         | 9.057172 | 9.997156 | 9.060016 | 10.939984  |
| 34         | 9.058271 | 9.997141 | 9.061130 | 10.938870  |
| 35         | 9.059367 | 9.997127 | 9.062240 | 10.937760  |
| 36         | 9.060460 | 9.997112 | 9.063348 | 10.936652  |
| 37         | 9.061551 | 9.997098 | 9.064453 | 10.935547  |
| 38         | 9.062639 | 9.997083 | 9.065556 | 10.934444  |
| 39         | 9.063723 | 9.997068 | 9.066655 | 10.933345  |
| 40         | 9.064806 | 9.997053 | 9.067752 | 10.932248  |
| 41         | 9.065885 | 9.997039 | 9.068846 | 10.931153  |
| 42         | 9.066962 | 9.997024 | 9.069938 | 10.930062  |
| 43         | 9.068036 | 9.997009 | 9.071027 | 10.928973  |
| 44         | 9.069107 | 9.996994 | 9.072113 | 10.927887  |
| 45         | 9.070176 | 9.996979 | 9.073197 | 10.926803  |
| 46         | 9.071242 | 9.996964 | 9.074278 | 10.925722  |
| 47         | 9.072305 | 9.996949 | 9.075356 | 10.924644  |
| 48         | 9.073366 | 9.996934 | 9.076432 | 10.923568  |
| 49         | 9.074424 | 9.996919 | 9.077505 | 10.922450  |
| 50         | 9.075480 | 9.996904 | 9.078576 | 10.921424  |
| 51         | 9.076533 | 9.996889 | 9.079644 | 10.920356  |
| 52         | 9.077583 | 9.996874 | 9.080710 | 10.919290  |
| 53         | 9.078631 | 9.996858 | 9.081773 | 10.918227  |
| 54         | 9.079676 | 9.996843 | 9.082834 | 10.917167  |
| 55         | 9.080719 | 9.996828 | 9.083891 | 10.916109  |
| 56         | 9.081759 | 9.996812 | 9.084947 | 10.915053  |
| 57         | 9.082797 | 9.996797 | 9.086000 | 10.914000  |
| 58         | 9.083832 | 9.996782 | 9.087050 | 10.912950  |
| 59         | 9.084864 | 9.996766 | 9.088098 | 10.911902  |
| 60         | 9.085894 | 9.996751 | 9.089144 | 10.910846  |
|            | Sine.    |          | Tang.    |            |
|            | Secant.  |          |          | Mi.<br>nu. |

83 Degrees.

A Table of Artificial Sines,

7 Degrees.

| Min. | Sine.    | Tang.    |          | Secant.   |             |
|------|----------|----------|----------|-----------|-------------|
| 0    | 9.08589  | 9.996750 | 9.089144 | 10.910856 | 10.91410560 |
| 1    | 9.086922 | 9.996735 | 9.090187 | 10.909813 | 10.91307859 |
| 2    | 9.087947 | 9.996720 | 9.091228 | 10.908772 | 10.903280   |
| 3    | 9.088970 | 9.996704 | 9.092266 | 10.907734 | 10.903296   |
| 4    | 9.089990 | 9.996688 | 9.093302 | 10.906698 | 10.903312   |
| 5    | 9.091008 | 9.996673 | 9.094335 | 10.905664 | 10.903327   |
| 6    | 9.092024 | 9.996657 | 9.095367 | 10.904633 | 10.903343   |
| 7    | 9.093037 | 9.996641 | 9.096396 | 10.903604 | 10.903359   |
| 8    | 9.094047 | 9.996625 | 9.097402 | 10.902578 | 10.903375   |
| 9    | 9.095056 | 9.996609 | 9.098446 | 10.901554 | 10.903390   |
| 10   | 9.096061 | 9.996594 | 9.099468 | 10.900532 | 10.903406   |
| 11   | 9.097065 | 9.996578 | 9.100487 | 10.899513 | 10.903422   |
| 12   | 9.098066 | 9.996562 | 9.101504 | 10.898496 | 10.903438   |
| 13   | 9.099065 | 9.996546 | 9.102519 | 10.897481 | 10.903454   |
| 14   | 9.100062 | 9.996530 | 9.103532 | 10.896468 | 10.903470   |
| 15   | 9.101056 | 9.996514 | 9.104542 | 10.895458 | 10.903486   |
| 16   | 9.102048 | 9.996498 | 9.105550 | 10.894450 | 10.903502   |
| 17   | 9.103037 | 9.996482 | 9.106556 | 10.893444 | 10.903518   |
| 18   | 9.104025 | 9.996465 | 9.107559 | 10.892441 | 10.903534   |
| 19   | 9.105016 | 9.996449 | 9.108560 | 10.891440 | 10.903551   |
| 20   | 9.105992 | 9.996433 | 9.109559 | 10.890441 | 10.903567   |
| 21   | 9.106973 | 9.996417 | 9.110556 | 10.889444 | 10.903583   |
| 22   | 9.107951 | 9.996400 | 9.111551 | 10.888449 | 10.903600   |
| 23   | 9.108927 | 9.996384 | 9.112543 | 10.887457 | 10.903616   |
| 24   | 9.109901 | 9.996368 | 9.113533 | 10.886467 | 10.903632   |
| 25   | 9.110873 | 9.996351 | 9.114521 | 10.885479 | 10.903649   |
| 26   | 9.111842 | 9.996335 | 9.115507 | 10.884493 | 10.903665   |
| 27   | 9.112805 | 9.996318 | 9.116491 | 10.883509 | 10.903682   |
| 28   | 9.113774 | 9.996302 | 9.117472 | 10.882528 | 10.903698   |
| 29   | 9.114737 | 9.996285 | 9.118452 | 10.881548 | 10.903715   |
| 30   | 9.115698 | 9.996269 | 9.119429 | 10.880571 | 10.903731   |
|      |          | Sine.    |          | Tang.     |             |
|      |          |          |          |           | Secant.     |

82 Degrees.

# Tangents and Secants.

*7 Degrees.*

| Min. | Sine.    | Tang.    | Secant.  | Min.      |
|------|----------|----------|----------|-----------|
| 30   | 9.115698 | 9.996269 | 9.119429 | 10.880571 |
| 31   | 9.116656 | 9.995252 | 9.120404 | 10.879596 |
| 32   | 9.117612 | 9.996235 | 9.121377 | 10.878623 |
| 33   | 9.118567 | 9.996218 | 9.122348 | 10.877652 |
| 34   | 9.119519 | 9.996202 | 9.123317 | 10.876683 |
| 35   | 9.120469 | 9.996185 | 9.124284 | 10.875716 |
| 36   | 9.121417 | 9.996168 | 9.125249 | 10.874751 |
| 37   | 9.122362 | 9.996151 | 9.126211 | 10.873789 |
| 38   | 9.123306 | 9.996134 | 9.127172 | 10.872828 |
| 39   | 9.124248 | 9.996117 | 9.128130 | 10.871870 |
| 40   | 9.125187 | 9.996100 | 9.129087 | 10.870913 |
| 41   | 9.126125 | 9.996083 | 9.130041 | 10.869959 |
| 42   | 9.127060 | 9.996066 | 9.130994 | 10.869006 |
| 43   | 9.127993 | 9.996049 | 9.131944 | 10.868056 |
| 44   | 9.128925 | 9.996032 | 9.132893 | 10.867107 |
| 45   | 9.129854 | 9.996015 | 9.133839 | 10.866161 |
| 46   | 9.130781 | 9.995998 | 9.134783 | 10.865216 |
| 47   | 9.131706 | 9.995980 | 9.135726 | 10.864274 |
| 48   | 9.132629 | 9.995963 | 9.136666 | 10.863333 |
| 49   | 9.133551 | 9.995946 | 9.137605 | 10.862395 |
| 50   | 9.134470 | 9.995928 | 9.138542 | 10.861458 |
| 51   | 9.135387 | 9.995911 | 9.139476 | 10.860524 |
| 52   | 9.136303 | 9.995894 | 9.140409 | 10.859591 |
| 53   | 9.137216 | 9.995876 | 9.141340 | 10.858660 |
| 54   | 9.138127 | 9.995859 | 9.142269 | 10.857731 |
| 55   | 9.139037 | 9.995841 | 9.143190 | 10.856804 |
| 56   | 9.139944 | 9.995823 | 9.144121 | 10.855879 |
| 57   | 9.140850 | 9.995806 | 9.145044 | 10.854956 |
| 58   | 9.141754 | 9.995788 | 9.145965 | 10.854034 |
| 59   | 9.142655 | 9.995770 | 9.146885 | 10.853115 |
| 60   | 9.143555 | 9.995753 | 9.147802 | 10.852197 |
|      | Sine.    | Tang.    | Secant.  | Min.      |

*82 Degrees.*

A Table of Artificial Sines,

8 Degrees.

| M  | Sine.    |          | Tang.    |           | Secant.   |             |
|----|----------|----------|----------|-----------|-----------|-------------|
| 0  | 9.143555 | 9.995753 | 9.147802 | 10.852197 | 10.004247 | 10.856445   |
| 1  | 9.144453 | 9.995735 | 9.148718 | 10.851282 | 10.004265 | 10.855547   |
| 2  | 9.145349 | 9.995717 | 9.149632 | 10.850368 | 10.004283 | 10.854651   |
| 3  | 9.146243 | 9.995699 | 9.150544 | 10.849456 | 10.004301 | 10.85375657 |
| 4  | 9.147126 | 9.995681 | 9.151454 | 10.848546 | 10.004318 | 10.852864   |
| 5  | 9.148026 | 9.995663 | 9.152363 | 10.847637 | 10.004336 | 10.85197455 |
| 6  | 9.148915 | 9.995646 | 9.153269 | 10.846731 | 10.004354 | 10.85108554 |
| 7  | 9.149801 | 9.995628 | 9.154174 | 10.845826 | 10.004372 | 10.85019853 |
| 8  | 9.150686 | 9.995609 | 9.155077 | 10.844923 | 10.004390 | 10.84931452 |
| 9  | 9.151569 | 9.995591 | 9.155978 | 10.844022 | 10.004408 | 10.848421   |
| 10 | 9.152451 | 9.995573 | 9.156887 | 10.843123 | 10.004427 | 10.847549   |
| 11 | 9.153330 | 9.995555 | 9.157775 | 10.842225 | 10.004445 | 10.84667049 |
| 12 | 9.154208 | 9.995537 | 9.158671 | 10.841329 | 10.004463 | 10.84579248 |
| 13 | 9.155083 | 9.995519 | 9.159565 | 10.840435 | 10.004481 | 10.84491747 |
| 14 | 9.155957 | 9.995500 | 9.160457 | 10.839542 | 10.004499 | 10.84404246 |
| 15 | 9.156830 | 9.995482 | 9.161347 | 10.838653 | 10.004518 | 10.84317049 |
| 16 | 9.157700 | 9.995464 | 9.162236 | 10.837764 | 10.004536 | 10.84230044 |
| 17 | 9.158569 | 9.995445 | 9.163123 | 10.836877 | 10.004554 | 10.84143143 |
| 18 | 9.159435 | 9.995427 | 9.164008 | 10.835992 | 10.004573 | 10.84056542 |
| 19 | 9.160300 | 9.995409 | 9.164892 | 10.835108 | 10.004591 | 10.83969041 |
| 20 | 9.161164 | 9.995390 | 9.165774 | 10.834226 | 10.004610 | 10.83883640 |
| 21 | 9.162025 | 9.995372 | 9.166654 | 10.833346 | 10.004628 | 10.83797439 |
| 22 | 9.162885 | 9.995353 | 9.167532 | 10.832468 | 10.004647 | 10.83711538 |
| 23 | 9.163743 | 9.995334 | 9.168499 | 10.831591 | 10.004665 | 10.83625737 |
| 24 | 9.164600 | 9.995316 | 9.169284 | 10.830716 | 10.004684 | 10.83540036 |
| 25 | 9.165454 | 9.995297 | 9.170157 | 10.829843 | 10.004703 | 10.83454635 |
| 26 | 9.166307 | 9.995278 | 9.171029 | 10.828971 | 10.004721 | 10.83369334 |
| 27 | 9.167159 | 9.995260 | 9.171899 | 10.828101 | 10.004740 | 10.83284133 |
| 28 | 9.168008 | 9.995241 | 9.172767 | 10.827233 | 10.004759 | 10.83199232 |
| 29 | 9.168856 | 9.995222 | 9.173634 | 10.826366 | 10.004778 | 10.83114431 |
| 30 | 9.169702 | 9.995203 | 9.174499 | 10.825501 | 10.004797 | 10.83029830 |
|    | Sine.    |          | Tang.    |           | Secant.   |             |

81 Degrees.

## Tangents and Secants.

8 Degrees.

| Min. | Sine.    |          | Tang.    |           | Secant.   |           |
|------|----------|----------|----------|-----------|-----------|-----------|
| 30   | 9.169702 | 9.995203 | 9.174499 | 10.825501 | 10.004797 | 10.830298 |
| 31   | 9.170546 | 9.995184 | 9.175362 | 10.824638 | 10.004816 | 10.829453 |
| 32   | 9.171389 | 9.995165 | 9.176224 | 10.823776 | 10.004835 | 10.828611 |
| 33   | 9.172230 | 9.995146 | 9.177084 | 10.822916 | 10.004854 | 10.827769 |
| 34   | 9.173070 | 9.995127 | 9.177942 | 10.822057 | 10.004873 | 10.826920 |
| 35   | 9.173908 | 9.995108 | 9.178799 | 10.821201 | 10.004892 | 10.826092 |
| 36   | 9.174744 | 9.995089 | 9.179655 | 10.820345 | 10.004911 | 10.825256 |
| 37   | 9.175578 | 9.995070 | 9.180508 | 10.819492 | 10.004930 | 10.824422 |
| 38   | 9.176411 | 9.995051 | 9.181360 | 10.818640 | 10.004949 | 10.823589 |
| 39   | 9.177242 | 9.995032 | 9.182211 | 10.817789 | 10.004968 | 10.822747 |
| 40   | 9.178072 | 9.995013 | 9.183059 | 10.816940 | 10.004987 | 10.821928 |
| 41   | 9.178900 | 9.994993 | 9.183907 | 10.816093 | 10.005007 | 10.821108 |
| 42   | 9.179726 | 9.994974 | 9.184752 | 10.815247 | 10.005026 | 10.820273 |
| 43   | 9.180551 | 9.994955 | 9.185597 | 10.814403 | 10.005045 | 10.819489 |
| 44   | 9.181374 | 9.994935 | 9.186439 | 10.813561 | 10.005064 | 10.818626 |
| 45   | 9.182196 | 9.994916 | 9.187280 | 10.812720 | 10.005084 | 10.817804 |
| 46   | 9.183016 | 9.994896 | 9.188120 | 10.811880 | 10.005104 | 10.816984 |
| 47   | 9.183834 | 9.994877 | 9.18957  | 10.811042 | 10.005123 | 10.816166 |
| 48   | 9.184651 | 9.994857 | 9.189794 | 10.810206 | 10.005143 | 10.815349 |
| 49   | 9.185466 | 9.994838 | 9.190629 | 10.809371 | 10.005162 | 10.814522 |
| 50   | 9.186280 | 9.994818 | 9.191462 | 10.808538 | 10.005182 | 10.813720 |
| 51   | 9.187092 | 9.994798 | 9.192294 | 10.807706 | 10.005201 | 10.812908 |
| 52   | 9.187903 | 9.994779 | 9.193124 | 10.806876 | 10.005221 | 10.812097 |
| 53   | 9.188712 | 9.994759 | 9.193953 | 10.806047 | 10.005241 | 10.811288 |
| 54   | 9.189519 | 9.994739 | 9.194780 | 10.805220 | 10.005261 | 10.810486 |
| 55   | 9.190325 | 9.994729 | 9.195606 | 10.804394 | 10.005280 | 10.809675 |
| 56   | 9.191130 | 9.994700 | 9.196430 | 10.803570 | 10.005300 | 10.808870 |
| 57   | 9.191933 | 9.994680 | 9.197253 | 10.802747 | 10.005320 | 10.808067 |
| 58   | 9.192734 | 9.994660 | 9.198074 | 10.801926 | 10.005340 | 10.807266 |
| 59   | 9.193534 | 9.994640 | 9.198894 | 10.801106 | 10.005360 | 10.806466 |
| 60   | 9.194332 | 9.994620 | 9.199712 | 10.800287 | 10.005380 | 10.805668 |
|      | Sine.    |          | Tang.    |           | Secant.   |           |

81 Degrees.

A Table of Artificial Sines,

9 Degrees.

| M. | Sine.    | Tang.    |          | Tang.     |           |              |
|----|----------|----------|----------|-----------|-----------|--------------|
| 0  | 9.194332 | 9.994620 | 9.199712 | 10.800287 | 10.005380 | 10.805668 60 |
| 1  | 9.195129 | 9.994600 | 9.200529 | 10.799471 | 10.005400 | 10.804876 59 |
| 2  | 9.195925 | 9.994580 | 9.201345 | 10.798655 | 10.005420 | 10.804075 58 |
| 3  | 9.196719 | 9.994560 | 9.202155 | 10.797841 | 10.005440 | 10.803281 57 |
| 4  | 9.197511 | 9.994540 | 9.202971 | 10.797529 | 10.005460 | 10.802489 56 |
| 5  | 9.198302 | 9.994519 | 9.203782 | 10.796217 | 10.005481 | 10.801698 55 |
| 6  | 9.199091 | 9.994499 | 9.204592 | 10.795408 | 10.005501 | 10.800909 54 |
| 7  | 9.199879 | 9.994479 | 9.205400 | 10.794600 | 10.005521 | 10.800121 53 |
| 8  | 9.200666 | 9.994459 | 9.206207 | 10.793792 | 10.005541 | 10.799334 52 |
| 9  | 9.201451 | 9.994438 | 9.207013 | 10.792087 | 10.005562 | 10.798549 51 |
| 10 | 9.202234 | 9.994418 | 9.207816 | 10.791182 | 10.005582 | 10.797765 50 |
| 11 | 9.203017 | 9.994397 | 9.208619 | 10.791381 | 10.005602 | 10.796983 49 |
| 12 | 9.203797 | 9.994377 | 9.209420 | 10.790580 | 10.005623 | 10.796203 48 |
| 13 | 9.204577 | 9.994357 | 9.210220 | 10.789780 | 10.005643 | 10.795423 47 |
| 14 | 9.205354 | 9.994336 | 9.211018 | 10.788982 | 10.005664 | 10.794645 46 |
| 15 | 9.206131 | 9.994316 | 9.211815 | 10.788185 | 10.005684 | 10.793869 45 |
| 16 | 9.206906 | 9.994295 | 9.212611 | 10.787389 | 10.005705 | 10.793094 44 |
| 17 | 9.207679 | 9.994274 | 9.213405 | 10.786595 | 10.005723 | 10.792320 43 |
| 18 | 9.208452 | 9.994254 | 9.214198 | 10.785802 | 10.005746 | 10.791548 42 |
| 19 | 9.209222 | 9.994233 | 9.214989 | 10.785011 | 10.005767 | 10.790778 41 |
| 20 | 9.209992 | 9.994212 | 9.215779 | 10.784220 | 10.005788 | 10.790008 40 |
| 21 | 9.210760 | 9.994191 | 9.216568 | 10.783432 | 10.005809 | 10.789240 39 |
| 22 | 9.211526 | 9.994171 | 9.217356 | 10.782644 | 10.005829 | 10.788474 38 |
| 23 | 9.212291 | 9.994150 | 9.218142 | 10.781858 | 10.005850 | 10.787709 37 |
| 24 | 9.213055 | 9.994129 | 9.218926 | 10.781074 | 10.005871 | 10.786945 36 |
| 25 | 9.213818 | 9.994108 | 9.219710 | 10.780290 | 10.005892 | 10.786182 35 |
| 26 | 9.214579 | 9.994087 | 9.220492 | 10.779508 | 10.005913 | 10.785421 34 |
| 27 | 9.215338 | 9.994066 | 9.221272 | 10.778728 | 10.005934 | 10.784662 33 |
| 28 | 9.216097 | 9.994045 | 9.222052 | 10.777948 | 10.005955 | 10.783903 32 |
| 29 | 9.216854 | 9.994024 | 9.222830 | 10.777170 | 10.005976 | 10.783146 31 |
| 30 | 9.217605 | 9.994003 | 9.223606 | 10.776393 | 10.005997 | 10.782201 30 |
|    | Sine.    |          | Tang.    |           |           | Secant.      |

86 Degrees.

# Tangents and Secants.

9 Degrees.

| Mi.<br>n. | Sine.    | Tang.    |          | Secant.   |           | Mi.<br>n. |    |
|-----------|----------|----------|----------|-----------|-----------|-----------|----|
| 30        | 9.217609 | 9.994003 | 9.223606 | 10.776393 | 10.005997 | 10.782391 | 30 |
| 31        | 9.218363 | 9.993981 | 9.224382 | 10.775618 | 10.006018 | 10.781636 | 29 |
| 32        | 9.219116 | 9.993960 | 9.225156 | 10.774844 | 10.006040 | 10.780884 | 28 |
| 33        | 9.219868 | 9.993939 | 9.225929 | 10.774071 | 10.006061 | 10.780132 | 27 |
| 34        | 9.220618 | 9.993918 | 9.226700 | 10.773300 | 10.006082 | 10.779382 | 26 |
| 35        | 9.221367 | 9.993896 | 9.227471 | 10.772529 | 10.006103 | 10.778633 | 25 |
| 36        | 9.222115 | 9.993875 | 9.228239 | 10.771760 | 10.006125 | 10.777885 | 24 |
| 37        | 9.222861 | 9.993854 | 9.229007 | 10.770993 | 10.006146 | 10.777139 | 23 |
| 38        | 9.223606 | 9.993832 | 9.229773 | 10.770226 | 10.006168 | 10.776394 | 22 |
| 39        | 9.224349 | 9.993811 | 9.230539 | 10.769461 | 10.006189 | 10.775650 | 21 |
| 40        | 9.225092 | 9.993789 | 9.231308 | 10.768698 | 10.006211 | 10.774908 | 20 |
| 41        | 9.225833 | 9.993768 | 9.232065 | 10.767935 | 10.006232 | 10.774167 | 19 |
| 42        | 9.226572 | 9.993746 | 9.232826 | 10.767174 | 10.006254 | 10.773427 | 18 |
| 43        | 9.227311 | 9.993725 | 9.233586 | 10.766414 | 10.006275 | 10.772689 | 17 |
| 44        | 9.228048 | 9.993703 | 9.234345 | 10.765655 | 10.006297 | 10.771952 | 16 |
| 45        | 9.228784 | 9.993681 | 9.235103 | 10.764897 | 10.006319 | 10.771216 | 15 |
| 46        | 9.229518 | 9.993660 | 9.235859 | 10.764141 | 10.006340 | 10.770481 | 14 |
| 47        | 9.230252 | 9.993638 | 9.236614 | 10.763386 | 10.006362 | 10.769748 | 13 |
| 48        | 9.230984 | 9.993616 | 9.237368 | 10.762632 | 10.006384 | 10.769016 | 12 |
| 49        | 9.231714 | 9.993594 | 9.238120 | 10.761880 | 10.006406 | 10.768285 | 11 |
| 50        | 9.232444 | 9.993572 | 9.238872 | 10.761128 | 10.006428 | 10.767556 | 10 |
| 51        | 9.233172 | 9.993550 | 9.239622 | 10.760378 | 10.006450 | 10.766828 | 9  |
| 52        | 9.233899 | 9.993528 | 9.240371 | 10.759629 | 10.006471 | 10.766101 | 8  |
| 53        | 9.234625 | 9.993506 | 9.241118 | 10.758881 | 10.006493 | 10.765375 | 7  |
| 54        | 9.235349 | 9.993484 | 9.241865 | 10.758135 | 10.006516 | 10.764651 | 6  |
| 55        | 9.236073 | 9.993462 | 9.242610 | 10.757390 | 10.006538 | 10.763927 | 5  |
| 56        | 9.236795 | 9.993441 | 9.243354 | 10.756646 | 10.006560 | 10.763205 | 4  |
| 57        | 9.237515 | 9.993418 | 9.244079 | 10.755903 | 10.006582 | 10.762485 | 3  |
| 58        | 9.238235 | 9.993396 | 9.244839 | 10.755161 | 10.006604 | 10.761765 | 2  |
| 59        | 9.238953 | 9.993374 | 9.245579 | 10.754421 | 10.006626 | 10.761047 | 1  |
| 60        | 9.239670 | 9.993351 | 9.246319 | 10.753681 | 10.006648 | 10.760330 | 0  |
|           | Sine.    |          | Tang.    |           | Secant.   |           |    |

80 Degrees.

A Table of Artificial Sines,

10 Degrees.

| M  | Sine.    | Tang.    |          | Secant.   |           |
|----|----------|----------|----------|-----------|-----------|
| 0  | 9.239670 | 9.993351 | 9.246319 | 10.753681 | 10.006648 |
| 1  | 9.240386 | 9.993329 | 9.247057 | 10.752943 | 10.006671 |
| 2  | 9.241101 | 9.993307 | 9.247794 | 10.752206 | 10.006693 |
| 3  | 9.241814 | 9.993284 | 9.248530 | 10.751470 | 10.006715 |
| 4  | 9.242526 | 9.993262 | 9.249264 | 10.750736 | 10.006738 |
| 5  | 9.243237 | 9.993249 | 9.249998 | 10.750002 | 10.006760 |
| 6  | 9.243947 | 9.993217 | 9.250730 | 10.749270 | 10.006783 |
| 7  | 9.244656 | 9.993195 | 9.251461 | 10.748539 | 10.006805 |
| 8  | 9.245363 | 9.993172 | 9.752191 | 10.747809 | 10.006828 |
| 9  | 9.246069 | 9.993149 | 9.252920 | 10.747080 | 10.006851 |
| 10 | 9.246775 | 9.993127 | 9.253648 | 10.746352 | 10.006873 |
| 11 | 9.247478 | 9.993104 | 9.254374 | 10.745626 | 10.006895 |
| 12 | 9.248181 | 9.993081 | 9.255100 | 10.744900 | 10.006919 |
| 13 | 9.248883 | 9.993059 | 9.255824 | 10.744176 | 10.006941 |
| 14 | 9.249583 | 9.993036 | 9.256547 | 10.743453 | 10.006964 |
| 15 | 9.250282 | 9.993013 | 9.257269 | 10.742731 | 10.006987 |
| 16 | 9.250980 | 9.992990 | 9.257990 | 10.742010 | 10.007010 |
| 17 | 9.251677 | 9.992967 | 9.258710 | 10.741290 | 10.007033 |
| 18 | 9.252373 | 9.992944 | 9.259428 | 10.740571 | 10.007056 |
| 19 | 9.253067 | 9.992921 | 9.260146 | 10.739854 | 10.007079 |
| 20 | 9.253761 | 9.992898 | 9.260862 | 10.739137 | 10.007102 |
| 21 | 9.254453 | 9.992875 | 9.261578 | 10.738422 | 10.007125 |
| 22 | 9.255144 | 9.992852 | 9.262292 | 10.737708 | 10.007148 |
| 23 | 9.255834 | 9.992829 | 9.263005 | 10.736995 | 10.007171 |
| 24 | 9.256523 | 9.992806 | 9.263717 | 10.736283 | 10.007194 |
| 25 | 9.257211 | 9.992783 | 9.264428 | 10.735572 | 10.007217 |
| 26 | 9.257898 | 9.992759 | 9.265138 | 10.734862 | 10.007240 |
| 27 | 9.258583 | 9.992736 | 9.265847 | 10.734153 | 10.007264 |
| 28 | 9.259268 | 9.992713 | 9.266555 | 10.733445 | 10.007287 |
| 29 | 9.259950 | 9.992689 | 9.267261 | 10.732739 | 10.007310 |
| 30 | 9.260630 | 9.992666 | 9.267967 | 10.732032 | 10.007334 |
|    | Sine.    |          | Tang.    |           | Secant.   |

79 Degrees.

# Tangents and Secants.

10 Degrees.

| M  | Sine.    |          | Tang.    |           | Secant.   |           | M  |
|----|----------|----------|----------|-----------|-----------|-----------|----|
| 60 | 9.260633 | 9.992666 | 9.267967 | 10.732033 | 10.007334 | 10.739367 | 30 |
| 59 | 9.261314 | 9.992643 | 9.268671 | 10.731329 | 10.007357 | 10.738686 | 29 |
| 58 | 9.261994 | 9.992619 | 9.269375 | 10.730625 | 10.007381 | 10.738006 | 28 |
| 57 | 9.262673 | 9.992596 | 9.270077 | 10.729923 | 10.007404 | 10.737327 | 27 |
| 56 | 9.263351 | 9.992572 | 9.270779 | 10.729221 | 10.007428 | 10.736649 | 26 |
| 55 | 9.264027 | 9.992549 | 9.271479 | 10.728521 | 10.007451 | 10.735973 | 25 |
| 54 | 9.264703 | 9.992525 | 9.272178 | 10.727822 | 10.007475 | 10.735297 | 24 |
| 53 | 9.265377 | 9.992501 | 9.272876 | 10.727124 | 10.007499 | 10.734622 | 23 |
| 52 | 9.266051 | 9.992478 | 9.273573 | 10.726427 | 10.007522 | 10.733949 | 22 |
| 51 | 9.266722 | 9.992454 | 9.274269 | 10.727131 | 10.007546 | 10.732277 | 21 |
| 50 | 9.267394 | 9.992430 | 9.274954 | 10.725030 | 10.007570 | 10.732605 | 20 |
| 49 | 9.268065 | 9.992406 | 9.275658 | 10.724342 | 10.007594 | 10.731935 | 19 |
| 48 | 9.268734 | 9.992382 | 9.276351 | 10.723649 | 10.007618 | 10.731266 | 18 |
| 47 | 9.269402 | 9.992358 | 9.277043 | 10.722957 | 10.007641 | 10.730598 | 17 |
| 46 | 9.270069 | 9.992335 | 9.277734 | 10.722266 | 10.007665 | 10.729931 | 16 |
| 45 | 9.270735 | 9.992311 | 9.278424 | 10.721576 | 10.007689 | 10.729265 | 15 |
| 44 | 9.271400 | 9.992287 | 9.279113 | 10.720887 | 10.007713 | 10.728600 | 14 |
| 43 | 9.272063 | 9.992263 | 9.279801 | 10.720199 | 10.007737 | 10.727936 | 13 |
| 42 | 9.272726 | 9.992238 | 9.280488 | 10.719512 | 10.007761 | 10.727274 | 12 |
| 41 | 9.273388 | 9.992214 | 9.281174 | 10.718826 | 10.007786 | 10.726612 | 11 |
| 40 | 9.274049 | 9.992190 | 9.281858 | 10.718141 | 10.007810 | 10.725951 | 10 |
| 39 | 9.274708 | 9.992166 | 9.282542 | 10.717458 | 10.007834 | 10.725292 | 9  |
| 38 | 9.275367 | 9.992142 | 9.283225 | 10.716775 | 10.007858 | 10.724633 | 8  |
| 37 | 9.276024 | 9.992117 | 9.283907 | 10.716093 | 10.007882 | 10.723975 | 7  |
| 36 | 9.276681 | 9.992092 | 9.284588 | 10.715412 | 10.007907 | 10.722210 | 6  |
| 35 | 9.277337 | 9.992069 | 9.285268 | 10.714732 | 10.007931 | 10.722663 | 5  |
| 34 | 9.277991 | 9.992044 | 9.285947 | 10.714053 | 10.007955 | 10.722005 | 4  |
| 33 | 9.278644 | 9.992020 | 9.286624 | 10.713375 | 10.007980 | 10.721354 | 3  |
| 32 | 9.279297 | 9.991996 | 9.287301 | 10.712699 | 10.008004 | 10.720703 | 2  |
| 31 | 9.279948 | 9.991971 | 9.287977 | 10.712023 | 10.008029 | 10.720052 | 1  |
| 30 | 9.280599 | 9.991947 | 9.288652 | 10.711348 | 10.008053 | 10.719401 | 0  |
|    | Sine.    |          | Tang.    |           | Secant.   |           | M  |

79 Degrees.

A Table of Artificial Sines,

to Degrees.

| M  | Sine.    | Tang.    |          | Secant.   |           |           |
|----|----------|----------|----------|-----------|-----------|-----------|
| 0  | 9.239670 | 9.993351 | 9.246319 | 10.753681 | 10.006648 | 10.760330 |
| 1  | 9.240386 | 9.993329 | 9.247057 | 10.752943 | 10.006671 | 10.759614 |
| 2  | 9.241101 | 9.993307 | 9.247794 | 10.752206 | 10.006693 | 10.758895 |
| 3  | 9.241814 | 9.993284 | 9.248530 | 10.751470 | 10.006715 | 10.758186 |
| 4  | 9.242526 | 9.993262 | 9.249264 | 10.750726 | 10.006738 | 10.757474 |
| 5  | 9.243237 | 9.993249 | 9.249998 | 10.750002 | 10.006760 | 10.756763 |
| 6  | 9.243947 | 9.993217 | 9.250730 | 10.749270 | 10.006783 | 10.756053 |
| 7  | 9.244656 | 9.993195 | 9.251461 | 10.748539 | 10.006805 | 10.755344 |
| 8  | 9.245363 | 9.993172 | 9.752191 | 10.747809 | 10.006828 | 10.754637 |
| 9  | 9.246069 | 9.993149 | 9.252920 | 10.747080 | 10.006851 | 10.753930 |
| 10 | 9.246775 | 9.993127 | 9.253648 | 10.746352 | 10.006873 | 10.753225 |
| 11 | 9.247478 | 9.993104 | 9.254374 | 10.745626 | 10.006895 | 10.752522 |
| 12 | 9.248181 | 9.993081 | 9.255100 | 10.744900 | 10.006919 | 10.751819 |
| 13 | 9.248883 | 9.993059 | 9.255824 | 10.744176 | 10.006941 | 10.751117 |
| 14 | 9.249583 | 9.993036 | 9.256547 | 10.743453 | 10.006964 | 10.750417 |
| 15 | 9.250282 | 9.993013 | 9.257269 | 10.742731 | 10.006987 | 10.749718 |
| 16 | 9.250980 | 9.992990 | 9.257990 | 10.742010 | 10.007010 | 10.749020 |
| 17 | 9.251677 | 9.992967 | 9.258710 | 10.741290 | 10.007033 | 10.748323 |
| 18 | 9.252373 | 9.992944 | 9.259428 | 10.740571 | 10.007056 | 10.747627 |
| 19 | 9.253067 | 9.992921 | 9.260146 | 10.739854 | 10.007079 | 10.746932 |
| 20 | 9.253761 | 9.992898 | 9.260862 | 10.739137 | 10.007102 | 10.746239 |
| 21 | 9.254453 | 9.992875 | 9.261578 | 10.738422 | 10.007125 | 10.745547 |
| 22 | 9.255144 | 9.992852 | 9.262292 | 10.737708 | 10.007148 | 10.744856 |
| 23 | 9.255834 | 9.992829 | 9.263005 | 10.736995 | 10.007171 | 10.744166 |
| 24 | 9.256523 | 9.992806 | 9.263717 | 10.736283 | 10.007194 | 10.743477 |
| 25 | 9.257211 | 9.992783 | 9.264428 | 10.735572 | 10.007217 | 10.742789 |
| 26 | 9.257898 | 9.992759 | 9.265138 | 10.734862 | 10.007240 | 10.742102 |
| 27 | 9.258583 | 9.992736 | 9.265847 | 10.734153 | 10.007264 | 10.741417 |
| 28 | 9.259268 | 9.992713 | 9.266555 | 10.733445 | 10.007287 | 10.740732 |
| 29 | 9.259950 | 9.992689 | 9.267261 | 10.732739 | 10.007310 | 10.740049 |
| 30 | 9.260630 | 9.992666 | 9.267967 | 10.732032 | 10.007334 | 10.739367 |
|    | Sine.    |          | Tang.    |           | Secant.   |           |

79 Degrees.

# Tangents and Secants.

10 Degrees.

| Min. | Sine.    | Tang.    |          | Secant.   |           | Min.      |
|------|----------|----------|----------|-----------|-----------|-----------|
| 60   | 9.260633 | 9.992666 | 9.267967 | 10.732033 | 10.007334 | 10.739367 |
| 59   | 9.261314 | 9.992643 | 9.268671 | 10.731329 | 10.007357 | 10.738686 |
| 58   | 9.261994 | 9.992619 | 9.269375 | 10.730625 | 10.007381 | 10.738006 |
| 57   | 9.262673 | 9.992596 | 9.270077 | 10.729923 | 10.007404 | 10.737327 |
| 56   | 9.263351 | 9.992572 | 9.270779 | 10.729221 | 10.007428 | 10.736649 |
| 55   | 9.264027 | 9.992549 | 9.271479 | 10.728521 | 10.007451 | 10.735973 |
| 54   | 9.264703 | 9.992525 | 9.272178 | 10.727822 | 10.007475 | 10.735297 |
| 53   | 9.265377 | 9.992501 | 9.272876 | 10.727124 | 10.007499 | 10.734622 |
| 52   | 9.266051 | 9.992478 | 9.273573 | 10.726427 | 10.007522 | 10.733949 |
| 51   | 9.266722 | 9.992454 | 9.274269 | 10.727121 | 10.007546 | 10.722277 |
| 50   | 9.267394 | 9.992430 | 9.274954 | 10.725030 | 10.007570 | 10.732605 |
| 49   | 9.268065 | 9.992406 | 9.275658 | 10.724342 | 10.007594 | 10.731935 |
| 48   | 9.268734 | 9.992382 | 9.276351 | 10.723649 | 10.007618 | 10.731266 |
| 47   | 9.269402 | 9.992358 | 9.277043 | 10.722957 | 10.007641 | 10.730598 |
| 46   | 9.270069 | 9.992335 | 9.277734 | 10.722263 | 10.007665 | 10.729931 |
| 45   | 9.270735 | 9.992311 | 9.278424 | 10.721576 | 10.007689 | 10.729265 |
| 44   | 9.271400 | 9.992287 | 9.279113 | 10.720887 | 10.007713 | 10.728600 |
| 43   | 9.272063 | 9.992263 | 9.279801 | 10.720199 | 10.007737 | 10.727936 |
| 42   | 9.272725 | 9.992238 | 9.280488 | 10.719512 | 10.007761 | 10.727274 |
| 41   | 9.273388 | 9.992214 | 9.281174 | 10.718826 | 10.007786 | 10.726612 |
| 40   | 9.274049 | 9.992190 | 9.281858 | 10.718141 | 10.007810 | 10.725951 |
| 39   | 9.274708 | 9.992166 | 9.282542 | 10.717458 | 10.007834 | 10.725292 |
| 38   | 9.275367 | 9.992142 | 9.283225 | 10.716775 | 10.007858 | 10.724633 |
| 37   | 9.276024 | 9.992117 | 9.283907 | 10.716093 | 10.007882 | 10.723975 |
| 36   | 9.276681 | 9.992092 | 9.284588 | 10.715412 | 10.007907 | 10.722210 |
| 35   | 9.277337 | 9.992069 | 9.285268 | 10.714732 | 10.007931 | 10.722663 |
| 34   | 9.277991 | 9.992044 | 9.285947 | 10.714053 | 10.007955 | 10.722009 |
| 33   | 9.278644 | 9.992020 | 9.286624 | 10.713375 | 10.007980 | 10.721354 |
| 32   | 9.279297 | 9.991995 | 9.287301 | 10.712699 | 10.008004 | 10.720703 |
| 31   | 9.279948 | 9.991971 | 9.287977 | 10.712023 | 10.008029 | 10.720052 |
| 30   | 9.280599 | 9.991947 | 9.288652 | 10.711348 | 10.008053 | 10.719401 |
|      | Sine.    |          | Tang.    |           | Secant.   | Min.      |

79 Degrees.

A Table of Artificial Sines,

II Degrees.

| N. | Sine.    | Tang.    |          | Secant.   |           |
|----|----------|----------|----------|-----------|-----------|
| 0  | 9.280595 | 9.991947 | 9.288651 | 10.711348 | 10.719401 |
| 1  | 9.281248 | 9.991922 | 9.289236 | 10.710674 | 10.718752 |
| 2  | 9.281897 | 9.991897 | 9.289995 | 10.710001 | 10.718103 |
| 3  | 9.282544 | 9.991873 | 9.290671 | 10.709329 | 10.717456 |
| 4  | 9.283190 | 9.991848 | 9.291342 | 10.708658 | 10.716809 |
| 5  | 9.283836 | 9.991823 | 9.292013 | 10.707987 | 10.716164 |
| 6  | 9.284480 | 9.991795 | 9.292682 | 10.707318 | 10.715520 |
| 7  | 9.285124 | 9.991774 | 9.293350 | 10.706650 | 10.714876 |
| 8  | 9.285766 | 9.991749 | 9.294017 | 10.705983 | 10.714234 |
| 9  | 9.286408 | 9.991724 | 9.294684 | 10.705316 | 10.713592 |
| 10 | 9.287048 | 9.991699 | 9.295349 | 10.704651 | 10.712952 |
| 11 | 9.287687 | 9.991674 | 9.296013 | 10.703987 | 10.712312 |
| 12 | 9.288326 | 9.991649 | 9.296677 | 10.703323 | 10.711674 |
| 13 | 9.288964 | 9.991624 | 9.297339 | 10.702660 | 10.711036 |
| 14 | 9.289600 | 9.991599 | 9.298001 | 10.701999 | 10.710400 |
| 15 | 9.290236 | 9.991574 | 9.298602 | 10.701338 | 10.709764 |
| 16 | 9.290870 | 9.991549 | 9.299322 | 10.700678 | 10.709030 |
| 17 | 9.291504 | 9.991524 | 9.299980 | 10.700020 | 10.708496 |
| 18 | 9.292137 | 9.991498 | 9.300638 | 10.699362 | 10.707863 |
| 19 | 9.292768 | 9.991473 | 9.301295 | 10.698705 | 10.707231 |
| 20 | 9.293399 | 9.991448 | 9.301951 | 10.698049 | 10.706601 |
| 21 | 9.294029 | 9.991422 | 9.302607 | 10.697393 | 10.705971 |
| 22 | 9.294658 | 9.991397 | 9.303261 | 10.696739 | 10.705342 |
| 23 | 9.295286 | 9.991372 | 9.303914 | 10.696086 | 10.704714 |
| 24 | 9.295913 | 9.991346 | 9.304567 | 10.695433 | 10.704087 |
| 25 | 9.296539 | 9.991321 | 9.305218 | 10.694782 | 10.703461 |
| 26 | 9.297164 | 9.991295 | 9.305869 | 10.694131 | 10.702836 |
| 27 | 9.297788 | 9.991270 | 9.306515 | 10.693481 | 10.702212 |
| 28 | 9.298412 | 9.991244 | 9.307167 | 10.692832 | 10.701588 |
| 29 | 9.299034 | 9.991218 | 9.307815 | 10.692184 | 10.700966 |
| 30 | 9.299655 | 9.991193 | 9.308463 | 10.691537 | 10.700345 |
|    | Sine.    |          | Tang.    |           | Secant.   |

78 Degrees.

## Tangents and Secants.

II Degrees.

| N  | Sine.    |          | Tang.    |           | Secant.   |           |      |
|----|----------|----------|----------|-----------|-----------|-----------|------|
|    |          |          |          |           |           |           | Min. |
| 30 | 9.299658 | 9.991193 | 9.308463 | 10.691537 | 10.008807 | 10.700345 | 30   |
| 31 | 9.300276 | 9.991167 | 9.309109 | 10.690891 | 10.008833 | 10.699724 | 29   |
| 32 | 9.300895 | 9.991141 | 9.309754 | 10.690246 | 10.008859 | 10.699105 | 28   |
| 33 | 9.301514 | 9.991115 | 9.310398 | 10.689601 | 10.008885 | 10.698486 | 27   |
| 34 | 9.302132 | 9.991090 | 9.311042 | 10.688958 | 10.008910 | 10.697868 | 26   |
| 35 | 9.302748 | 9.991064 | 9.311685 | 10.688315 | 10.008936 | 10.697251 | 25   |
| 36 | 9.303364 | 9.991038 | 9.312327 | 10.687673 | 10.008962 | 10.696636 | 24   |
| 37 | 9.293979 | 9.991012 | 9.312967 | 10.687032 | 10.008988 | 10.696021 | 23   |
| 38 | 9.304593 | 9.990986 | 9.313608 | 10.686392 | 10.009014 | 10.695407 | 22   |
| 39 | 9.305207 | 9.990960 | 9.314247 | 10.685753 | 10.009041 | 10.694793 | 21   |
| 40 | 9.305819 | 9.990934 | 9.314885 | 10.685115 | 10.009066 | 10.694181 | 20   |
| 41 | 9.306430 | 9.990908 | 9.315523 | 10.684477 | 10.009092 | 10.693570 | 19   |
| 42 | 9.307041 | 9.990881 | 9.316159 | 10.683841 | 10.009118 | 10.692959 | 18   |
| 43 | 9.307650 | 9.990855 | 9.316795 | 10.683205 | 10.009145 | 10.692350 | 17   |
| 44 | 9.308259 | 9.990829 | 9.317430 | 10.682570 | 10.009171 | 10.691741 | 16   |
| 45 | 9.308867 | 9.990803 | 9.318064 | 10.681936 | 10.009197 | 10.691133 | 15   |
| 46 | 9.309474 | 9.990777 | 9.318697 | 10.681303 | 10.009223 | 10.690526 | 14   |
| 47 | 9.310080 | 9.990750 | 9.319329 | 10.680670 | 10.009250 | 10.689920 | 13   |
| 48 | 9.310685 | 9.990724 | 9.319961 | 10.680039 | 10.009276 | 10.689315 | 12   |
| 49 | 9.311289 | 9.990697 | 9.320592 | 10.679408 | 10.009303 | 10.688711 | 11   |
| 50 | 9.311893 | 9.990671 | 9.321222 | 10.678778 | 10.009329 | 10.688107 | 10   |
| 51 | 9.312495 | 9.990644 | 9.321851 | 10.678149 | 10.009355 | 10.687505 | 9    |
| 52 | 9.313097 | 9.990618 | 9.322479 | 10.677521 | 10.009382 | 10.686903 | 8    |
| 53 | 9.313698 | 9.990591 | 9.323106 | 10.676894 | 10.009409 | 10.686302 | 7    |
| 54 | 9.314297 | 9.990565 | 9.323733 | 10.676267 | 10.009435 | 10.685702 | 6    |
| 55 | 9.314896 | 9.990538 | 9.324358 | 10.675642 | 10.009462 | 10.685103 | 5    |
| 56 | 9.315495 | 9.990511 | 9.324983 | 10.675017 | 10.009488 | 10.684505 | 4    |
| 57 | 9.316092 | 9.990485 | 9.325607 | 10.674393 | 10.009515 | 10.683908 | 3    |
| 58 | 9.316688 | 9.990458 | 9.326230 | 10.673769 | 10.009542 | 10.683311 | 2    |
| 59 | 9.317284 | 9.990431 | 9.326853 | 10.673147 | 10.009569 | 10.682716 | 1    |
| 60 | 9.317879 | 9.990404 | 9.327474 | 10.672525 | 10.009596 | 10.682121 | 0    |
|    | Sine.    |          | Tang.    |           | Secant.   |           | Min. |

78 Degrees.

A Table of Artificial Sines,

12 Degrees.

| Min. | Sine.    | Tang.    | Secant.  | Min.      |
|------|----------|----------|----------|-----------|
| 0    | 9.317879 | 9.990464 | 9.327474 | 10.672525 |
| 1    | 9.318473 | 9.990377 | 9.328095 | 10.671905 |
| 2    | 9.319066 | 9.990351 | 9.328715 | 10.671285 |
| 3    | 9.319658 | 9.990324 | 9.329334 | 10.670665 |
| 4    | 9.320249 | 9.990297 | 9.329953 | 10.670047 |
| 5    | 9.320840 | 9.990270 | 9.330570 | 10.669943 |
| 6    | 9.321430 | 9.990243 | 9.331187 | 10.668813 |
| 7    | 9.322019 | 9.990215 | 9.331803 | 10.668497 |
| 8    | 9.322607 | 9.990188 | 9.332418 | 10.667582 |
| 9    | 9.323194 | 9.990161 | 9.333032 | 10.666967 |
| 10   | 9.323780 | 9.990134 | 9.333646 | 10.666354 |
| 11   | 9.324366 | 9.990107 | 9.334259 | 10.665741 |
| 12   | 9.324950 | 9.990079 | 9.334871 | 10.665129 |
| 13   | 9.325534 | 9.990052 | 9.335482 | 10.664518 |
| 14   | 9.326117 | 9.990025 | 9.336093 | 10.663997 |
| 15   | 9.326700 | 9.989997 | 9.336702 | 10.663297 |
| 16   | 9.327281 | 9.989970 | 9.337311 | 10.662689 |
| 17   | 9.327862 | 9.989942 | 9.337919 | 10.662081 |
| 18   | 9.328442 | 9.989915 | 9.338527 | 10.661473 |
| 19   | 9.329021 | 9.989887 | 9.339132 | 10.660867 |
| 20   | 9.329599 | 9.989860 | 9.339739 | 10.660251 |
| 21   | 9.330176 | 9.989832 | 9.340344 | 10.659636 |
| 22   | 9.330753 | 9.989804 | 9.340948 | 10.659052 |
| 23   | 9.331328 | 9.989777 | 9.341552 | 10.658448 |
| 24   | 9.331903 | 9.989749 | 9.342155 | 10.657845 |
| 25   | 9.332478 | 9.989721 | 9.342757 | 10.657243 |
| 26   | 9.333051 | 9.989693 | 9.343358 | 10.656642 |
| 27   | 9.333624 | 9.989665 | 9.343958 | 10.656042 |
| 28   | 9.334195 | 9.989637 | 9.344558 | 10.655442 |
| 29   | 9.334766 | 9.989609 | 9.345157 | 10.654843 |
| 30   | 9.325337 | 9.989581 | 9.345755 | 10.654245 |
|      |          | Sine.    | Tang.    | Secant.   |

77 Degrees.

## Tangents and Secants.

12 Degrees.

|    | Sine.    | Tang.    | Secant.  |           |
|----|----------|----------|----------|-----------|
| 30 | 9.335337 | 9.989581 | 9.345755 | 10.654245 |
| 31 | 9.335906 | 9.989553 | 9.346353 | 10.653647 |
| 32 | 9.336475 | 9.989525 | 9.346949 | 10.653051 |
| 33 | 9.337043 | 9.989497 | 9.347545 | 10.652455 |
| 34 | 9.337610 | 9.989469 | 9.348141 | 10.651859 |
| 35 | 9.338176 | 9.989441 | 9.348735 | 10.651265 |
| 36 | 9.338742 | 9.989413 | 9.349329 | 10.650671 |
| 37 | 9.339306 | 9.989384 | 9.349922 | 10.650078 |
| 38 | 9.339871 | 9.989356 | 9.350514 | 10.649486 |
| 39 | 9.340434 | 9.989328 | 9.351106 | 10.648894 |
| 40 | 9.340996 | 9.989299 | 9.351697 | 10.648303 |
| 41 | 9.341558 | 9.989271 | 9.352287 | 10.647713 |
| 42 | 9.342119 | 9.989243 | 9.352876 | 10.647124 |
| 43 | 9.342679 | 9.989214 | 9.353465 | 10.646535 |
| 44 | 9.343239 | 9.989186 | 9.354053 | 10.645947 |
| 45 | 9.343797 | 9.989157 | 9.354640 | 10.645360 |
| 46 | 9.344355 | 9.989128 | 9.355227 | 10.644777 |
| 47 | 9.344912 | 9.989100 | 9.355813 | 10.644187 |
| 48 | 9.345469 | 9.989071 | 9.356398 | 10.643602 |
| 49 | 9.346024 | 9.989042 | 9.356982 | 10.643018 |
| 50 | 9.346579 | 9.989014 | 9.357566 | 10.642434 |
| 51 | 9.347134 | 9.988985 | 9.358149 | 10.641851 |
| 52 | 9.347687 | 9.988956 | 9.358731 | 10.641269 |
| 53 | 9.348240 | 9.988927 | 9.359313 | 10.640687 |
| 54 | 9.348792 | 9.988898 | 9.359893 | 10.640106 |
| 55 | 9.349343 | 9.988869 | 9.360474 | 10.639526 |
| 56 | 9.349892 | 9.988840 | 9.361053 | 10.638947 |
| 57 | 9.350443 | 9.988811 | 9.361632 | 10.638368 |
| 58 | 9.350992 | 9.988782 | 9.362210 | 10.637790 |
| 59 | 9.351540 | 9.988753 | 9.362787 | 10.637213 |
| 60 | 9.352088 | 9.988724 | 9.363364 | 10.636636 |
|    | Sine.    | Tang.    | Secant.  |           |

77 Degrees.

A Table of Artificial Sines,

13 Degrees.

| M. | Sine.    | Tang.    | Secant.  | Min.      |           |
|----|----------|----------|----------|-----------|-----------|
| 0  | 9.352088 | 9.988724 | 9.363364 | 10.636636 | 10.647912 |
| 1  | 9.352635 | 9.988685 | 9.363940 | 10.636060 | 10.647365 |
| 2  | 9.353181 | 9.988665 | 9.364515 | 10.635484 | 10.646819 |
| 3  | 9.353726 | 9.988636 | 9.365090 | 10.634910 | 10.646274 |
| 4  | 9.354271 | 9.988607 | 9.365664 | 10.634236 | 10.645729 |
| 5  | 9.354815 | 9.988578 | 9.366237 | 10.633763 | 10.645185 |
| 6  | 9.355358 | 9.988548 | 9.366810 | 10.633190 | 10.644642 |
| 7  | 9.355901 | 9.988519 | 9.367382 | 10.632618 | 10.644099 |
| 8  | 9.356443 | 9.988489 | 9.367953 | 10.632047 | 10.643557 |
| 9  | 9.356984 | 9.988460 | 9.368524 | 10.631476 | 10.643016 |
| 10 | 9.357524 | 9.988430 | 9.369094 | 10.630908 | 10.642476 |
| 11 | 9.358064 | 9.988401 | 9.369663 | 10.630337 | 10.641936 |
| 12 | 9.358603 | 9.988371 | 9.370231 | 10.629768 | 10.641397 |
| 13 | 9.359141 | 9.988341 | 9.370799 | 10.629201 | 10.640859 |
| 14 | 9.359678 | 9.988312 | 9.371367 | 10.628633 | 10.640221 |
| 15 | 9.360215 | 9.988282 | 9.371933 | 10.628067 | 10.639785 |
| 16 | 9.360751 | 9.988252 | 9.372499 | 10.627501 | 10.639248 |
| 17 | 9.361287 | 9.988222 | 9.373064 | 10.626935 | 10.638713 |
| 18 | 9.361822 | 9.988193 | 9.373629 | 10.626371 | 10.638178 |
| 19 | 9.362265 | 9.988163 | 9.374193 | 10.625807 | 10.627644 |
| 20 | 9.362809 | 9.988133 | 9.374756 | 10.625244 | 10.637111 |
| 21 | 9.363422 | 9.988103 | 9.375319 | 10.624681 | 10.636578 |
| 22 | 9.363954 | 9.988073 | 9.375881 | 10.624119 | 10.636046 |
| 23 | 9.364485 | 9.988043 | 9.376442 | 10.623558 | 10.635515 |
| 24 | 9.365016 | 9.988013 | 9.377002 | 10.622997 | 10.624984 |
| 25 | 9.365546 | 9.987983 | 9.377505 | 10.622437 | 10.624454 |
| 26 | 9.366075 | 9.987952 | 9.378122 | 10.621877 | 10.623925 |
| 27 | 9.366604 | 9.987922 | 9.37868  | 10.621319 | 10.623396 |
| 28 | 9.367131 | 9.987892 | 9.379239 | 10.620761 | 10.622868 |
| 29 | 9.367659 | 9.987862 | 9.379797 | 10.620203 | 10.622341 |
| 30 | 9.368185 | 9.987831 | 9.380354 | 10.619646 | 10.621815 |
|    | Sinz.    |          | Tang.    | Secant.   | Min.      |

76 Degrees.

# Tangents and Secants.

13 Degrees.

|    | Sine.    | Tang.    | Secant.  |           |
|----|----------|----------|----------|-----------|
| 30 | 9.368185 | 9.987831 | 9.380354 | 10.619646 |
| 31 | 9.368711 | 9.987801 | 9.380910 | 10.619090 |
| 32 | 9.369236 | 9.987771 | 9.381465 | 10.618534 |
| 33 | 9.369761 | 9.987740 | 9.382020 | 10.617979 |
| 34 | 9.370285 | 9.987710 | 9.382575 | 10.617425 |
| 35 | 9.370806 | 9.987679 | 9.383128 | 10.616871 |
| 36 | 9.371330 | 9.987648 | 9.383682 | 10.616318 |
| 37 | 9.371852 | 9.987618 | 9.384234 | 10.615766 |
| 38 | 9.372373 | 9.987588 | 9.384786 | 10.615214 |
| 39 | 9.372894 | 9.987557 | 9.385337 | 10.614653 |
| 40 | 9.373414 | 9.987526 | 9.385888 | 10.614112 |
| 41 | 9.373933 | 9.987495 | 9.386438 | 10.613562 |
| 42 | 9.374452 | 9.987465 | 9.386987 | 10.613013 |
| 43 | 9.374970 | 9.987434 | 9.387536 | 10.612464 |
| 44 | 9.375487 | 9.987403 | 9.388084 | 10.611916 |
| 45 | 9.376003 | 9.987372 | 9.388631 | 10.611309 |
| 46 | 9.376519 | 9.987341 | 9.389178 | 10.610822 |
| 47 | 9.377035 | 9.987310 | 9.389724 | 10.610276 |
| 48 | 9.377549 | 9.987279 | 9.390270 | 10.609730 |
| 49 | 9.378063 | 9.987248 | 9.390815 | 10.609185 |
| 50 | 9.378577 | 9.987217 | 9.391359 | 10.608040 |
| 51 | 9.379089 | 9.987186 | 9.391903 | 10.608097 |
| 52 | 9.379601 | 9.987155 | 9.392447 | 10.607553 |
| 53 | 9.380113 | 9.987124 | 9.392989 | 10.607011 |
| 54 | 9.380624 | 9.987092 | 9.393531 | 10.606449 |
| 55 | 9.381134 | 9.987061 | 9.394073 | 10.605927 |
| 56 | 9.381643 | 9.987030 | 9.394614 | 10.605385 |
| 57 | 9.382162 | 9.986998 | 9.395154 | 10.604846 |
| 58 | 9.382660 | 9.986967 | 9.395693 | 10.604306 |
| 59 | 9.383168 | 9.986936 | 9.396233 | 10.603767 |
| 60 | 9.383675 | 9.986904 | 9.396771 | 10.603229 |
|    | Sine.    | Tang.    | Secant.  |           |

76 Degrees.

A Table of Artificial Sines.

14 Degrees.

| N. | Sine.    |          | Tang.    |           | Secant.   |              |
|----|----------|----------|----------|-----------|-----------|--------------|
| 0  | 9.383575 | 9.986904 | 9.396771 | 10.603229 | 10.013096 | 10.616325 00 |
| 1  | 9.384181 | 9.985873 | 9.397309 | 10.602691 | 10.013127 | 10.615818 59 |
| 2  | 9.384687 | 9.986841 | 9.397846 | 10.602154 | 10.013159 | 10.615313 58 |
| 3  | 9.385192 | 9.986809 | 9.398383 | 10.601617 | 10.013191 | 10.614808 57 |
| 4  | 9.385697 | 9.986778 | 9.398919 | 10.601081 | 10.013222 | 10.614303 56 |
| 5  | 9.386201 | 9.980746 | 9.399455 | 10.600545 | 10.013254 | 10.613799 55 |
| 6  | 9.386704 | 9.986714 | 9.399990 | 10.600010 | 10.013286 | 10.613296 54 |
| 7  | 9.387207 | 9.986683 | 9.400524 | 10.599476 | 10.013317 | 10.612793 53 |
| 8  | 9.387705 | 9.986651 | 9.401058 | 10.598942 | 10.013349 | 10.612291 52 |
| 9  | 9.388210 | 9.986619 | 9.401591 | 10.598409 | 10.013381 | 10.611790 51 |
| 10 | 9.388711 | 9.986587 | 9.402124 | 10.597876 | 10.013413 | 10.611289 50 |
| 11 | 9.389211 | 9.986555 | 9.402655 | 10.597344 | 10.013445 | 10.610789 49 |
| 12 | 9.389711 | 9.986523 | 9.403187 | 10.596813 | 10.013477 | 10.610289 48 |
| 13 | 9.390210 | 9.986491 | 9.403718 | 10.596282 | 10.013509 | 10.609790 47 |
| 14 | 9.390708 | 9.986459 | 9.404249 | 10.595751 | 10.013541 | 10.609292 46 |
| 15 | 9.391206 | 9.986427 | 9.404778 | 10.595222 | 10.013573 | 10.608794 45 |
| 16 | 9.391703 | 9.986395 | 9.405308 | 10.594692 | 10.013605 | 10.608297 44 |
| 17 | 9.392199 | 9.986363 | 9.405836 | 10.594164 | 10.013637 | 10.607801 43 |
| 18 | 9.392695 | 9.986331 | 9.406334 | 10.593636 | 10.013669 | 10.607305 42 |
| 19 | 9.393190 | 9.986299 | 9.406892 | 10.593108 | 10.013701 | 10.606809 41 |
| 20 | 9.393685 | 9.986266 | 9.407419 | 10.592581 | 10.013734 | 10.606315 40 |
| 21 | 9.394179 | 9.986234 | 9.407945 | 10.592055 | 10.013766 | 10.605821 39 |
| 22 | 9.394673 | 9.986202 | 9.408471 | 10.591529 | 10.013798 | 10.605327 38 |
| 23 | 9.395166 | 9.986169 | 9.408996 | 10.591003 | 10.013831 | 10.604834 37 |
| 24 | 9.395658 | 9.986137 | 9.409521 | 10.590470 | 10.013863 | 10.604342 36 |
| 25 | 9.396150 | 9.986104 | 9.410045 | 10.589955 | 10.013895 | 10.603850 35 |
| 26 | 9.39664  | 9.986072 | 9.410569 | 10.589431 | 10.013928 | 10.603359 34 |
| 27 | 9.397131 | 9.986039 | 9.411092 | 10.588908 | 10.013961 | 10.602868 33 |
| 28 | 9.397621 | 9.986007 | 9.411615 | 10.588335 | 10.013993 | 10.602378 32 |
| 29 | 9.398111 | 9.985974 | 9.412137 | 10.587863 | 10.014026 | 10.601889 31 |
| 30 | 9.398600 | 9.985942 | 9.412658 | 10.587342 | 10.014058 | 10.601400 30 |
|    | Sine.    |          | Tang.    |           | Secant.   |              |

75 Degrees.

# Tangents and Secants.

14 Degrees.

|    | Sine.    | Tang.    |          | Secant.   |              |
|----|----------|----------|----------|-----------|--------------|
| 30 | 9.398600 | 9.985942 | 9.412658 | 10.587342 | 10.601400 30 |
| 31 | 9.399088 | 9.985909 | 9.413179 | 10.586821 | 10.60091229  |
| 32 | 9.399575 | 9.985876 | 9.413695 | 10.586301 | 10.60042528  |
| 33 | 9.400062 | 9.985843 | 9.414219 | 10.585781 | 10.59993727  |
| 34 | 9.400549 | 9.985811 | 9.414738 | 10.585262 | 10.59945126  |
| 35 | 9.401035 | 9.985778 | 9.415257 | 10.584743 | 10.59896525  |
| 36 | 9.401520 | 9.985745 | 9.415775 | 10.584225 | 10.59848024  |
| 37 | 9.402005 | 9.985712 | 9.416293 | 10.583707 | 10.59799523  |
| 38 | 9.402489 | 9.985679 | 9.416810 | 10.583190 | 10.59751122  |
| 39 | 9.402973 | 9.985646 | 9.417326 | 10.582673 | 10.59702821  |
| 40 | 9.403455 | 9.985613 | 9.417842 | 10.582157 | 10.59654420  |
| 41 | 9.403938 | 9.985580 | 9.418358 | 10.581642 | 10.59606219  |
| 42 | 9.404420 | 9.985547 | 9.418873 | 10.581127 | 10.59558018  |
| 43 | 9.404901 | 9.985513 | 9.419387 | 10.580613 | 10.59509917  |
| 44 | 9.405382 | 9.985480 | 9.419901 | 10.580099 | 10.59461816  |
| 45 | 9.405862 | 9.985447 | 9.420415 | 10.579585 | 10.59413815  |
| 46 | 9.406341 | 9.985414 | 9.420927 | 10.579072 | 10.59365914  |
| 47 | 9.406820 | 9.985380 | 9.421440 | 10.578560 | 10.59318013  |
| 48 | 9.407299 | 9.985347 | 9.421951 | 10.578048 | 10.59270112  |
| 49 | 9.407777 | 9.985314 | 9.422463 | 10.577537 | 10.59222311  |
| 50 | 9.408254 | 9.985280 | 9.422973 | 10.577026 | 10.59174610  |
| 51 | 9.408731 | 9.985247 | 9.423484 | 10.576516 | 10.591269 9  |
| 52 | 9.409207 | 9.985213 | 9.423993 | 10.576006 | 10.590793 8  |
| 53 | 9.409682 | 9.985180 | 9.424503 | 10.575497 | 10.590318 7  |
| 54 | 9.410157 | 9.985146 | 9.425011 | 10.574989 | 10.589842 6  |
| 55 | 9.410632 | 9.985112 | 9.425519 | 10.574481 | 10.589368 5  |
| 56 | 9.411106 | 9.985079 | 9.426027 | 10.573973 | 10.588894 4  |
| 57 | 9.411579 | 9.985045 | 9.426534 | 10.573466 | 10.588421 3  |
| 58 | 9.412052 | 9.985011 | 9.427041 | 10.572959 | 10.587948 2  |
| 59 | 9.412524 | 9.984978 | 9.427547 | 10.572453 | 10.587475 1  |
| 60 | 9.412996 | 9.984944 | 9.428052 | 10.571947 | 10.587000 0  |
|    | Sine.    |          | Tang.    |           | Secant.      |
|    |          |          |          |           | Min.         |

75 Degrees.

A Table of Artificial Sines,

15 Degrees.

| M. | Sine.    | Tang.    |          | Secant.   |           |
|----|----------|----------|----------|-----------|-----------|
| 0  | 9.412996 | 9.984944 | 9.428052 | 10.571947 | 10.587004 |
| 1  | 9.413467 | 9.984910 | 9.428557 | 10.571442 | 10.586533 |
| 2  | 9.413938 | 9.984876 | 9.429062 | 10.570938 | 10.586062 |
| 3  | 9.414408 | 9.984842 | 9.429566 | 10.570434 | 10.585592 |
| 4  | 9.414878 | 9.984808 | 9.430070 | 10.569930 | 10.585122 |
| 5  | 9.415347 | 9.984774 | 9.430573 | 10.569427 | 10.584653 |
| 6  | 9.415815 | 9.984740 | 9.431075 | 10.568925 | 10.584185 |
| 7  | 9.416283 | 9.984706 | 9.431577 | 10.568423 | 10.583717 |
| 8  | 9.416751 | 9.984672 | 9.432079 | 10.567921 | 10.583249 |
| 9  | 9.417217 | 9.984637 | 9.432580 | 10.567420 | 10.582783 |
| 10 | 9.417684 | 9.984593 | 9.433080 | 10.566920 | 10.582316 |
| 11 | 9.418149 | 9.984559 | 9.433580 | 10.566419 | 10.581850 |
| 12 | 9.418615 | 9.984535 | 9.434080 | 10.565920 | 10.581385 |
| 13 | 9.419079 | 9.984500 | 9.434579 | 10.565421 | 10.580920 |
| 14 | 9.419544 | 9.984466 | 9.435078 | 10.564922 | 10.580456 |
| 15 | 9.420007 | 9.984432 | 9.435576 | 10.564424 | 10.579993 |
| 16 | 9.420470 | 9.984397 | 9.436073 | 10.563927 | 10.579530 |
| 17 | 9.420933 | 9.984363 | 9.436570 | 10.563430 | 10.579067 |
| 18 | 9.421395 | 9.984328 | 9.437067 | 10.562933 | 10.578605 |
| 19 | 9.421857 | 9.984293 | 9.437563 | 10.562437 | 10.578143 |
| 20 | 9.422318 | 9.984259 | 9.438059 | 10.561941 | 10.577682 |
| 21 | 9.422778 | 9.984224 | 9.438554 | 10.561446 | 10.577222 |
| 22 | 9.423238 | 9.984189 | 9.439048 | 10.560951 | 10.576762 |
| 23 | 9.423697 | 9.984155 | 9.439543 | 10.560457 | 10.576303 |
| 24 | 9.424156 | 9.984120 | 9.440036 | 10.559964 | 10.575844 |
| 25 | 9.424615 | 9.984085 | 9.440529 | 10.559470 | 10.575385 |
| 26 | 9.425073 | 9.984050 | 9.441022 | 10.558978 | 10.574927 |
| 27 | 9.425530 | 9.984015 | 9.441514 | 10.558485 | 10.574470 |
| 28 | 9.425987 | 9.983980 | 9.442006 | 10.557994 | 10.574013 |
| 29 | 9.426443 | 9.983945 | 9.442497 | 10.557502 | 10.573557 |
| 30 | 9.426899 | 9.983910 | 9.442988 | 10.557012 | 10.573101 |
|    | Sine.    |          | Tang.    |           | Secant.   |

74 Degrees.

## Tangents and Secants.

15 Degrees.

| Sine.    | Tang.    | Secant.  |           |
|----------|----------|----------|-----------|
| 9.426899 | 9.983910 | 9.442988 | 10.557012 |
| 9.427354 | 9.983875 | 9.443479 | 10.556521 |
| 9.427809 | 9.983840 | 9.443968 | 10.556031 |
| 9.428263 | 9.983805 | 9.444458 | 10.555542 |
| 9.428717 | 9.983770 | 9.444947 | 10.555053 |
| 9.429170 | 9.983735 | 9.445435 | 10.554565 |
| 9.429623 | 9.983700 | 9.445923 | 10.554077 |
| 9.430075 | 9.983664 | 9.446411 | 10.553589 |
| 9.430527 | 9.983629 | 9.446898 | 10.553102 |
| 9.430978 | 9.983594 | 9.447384 | 10.552616 |
| 9.431429 | 9.983558 | 9.447870 | 10.552130 |
| 9.431879 | 9.983523 | 9.448356 | 10.551644 |
| 9.432328 | 9.983487 | 9.448841 | 10.551159 |
| 9.432778 | 9.983452 | 9.449326 | 10.550674 |
| 9.433226 | 9.983416 | 9.449810 | 10.550190 |
| 9.433675 | 9.983380 | 9.450294 | 10.549706 |
| 9.434122 | 9.983345 | 9.450777 | 10.549223 |
| 9.434569 | 9.983309 | 9.451260 | 10.548740 |
| 9.435016 | 9.983273 | 9.451743 | 10.548257 |
| 9.435462 | 9.983238 | 9.452225 | 10.547775 |
| 9.435908 | 9.983202 | 9.452706 | 10.547294 |
| 9.436353 | 9.983166 | 9.453187 | 10.546813 |
| 9.436798 | 9.983130 | 9.453668 | 10.546332 |
| 9.437242 | 9.983094 | 9.454148 | 10.545852 |
| 9.437686 | 9.983058 | 9.454628 | 10.545372 |
| 9.438129 | 9.983022 | 9.455107 | 10.544893 |
| 9.438572 | 9.982986 | 9.455586 | 10.544414 |
| 9.439014 | 9.982950 | 9.456064 | 10.543936 |
| 9.439456 | 9.982914 | 9.456542 | 10.543458 |
| 9.439897 | 9.982878 | 9.457019 | 10.542981 |
| 9.440338 | 9.982842 | 9.457496 | 10.542504 |
|          | Sine.    | Tang.    | Secant.   |

74 Degrees.

## Tangents and Secants.

16 Degrees.

| Min. | Sine.    | Tang.    |          | Secant.   |           |
|------|----------|----------|----------|-----------|-----------|
| 0    | 9.440338 | 9.982842 | 9.457496 | 10.542504 | 10.559662 |
| 1    | 9.440778 | 9.982805 | 9.457973 | 10.542027 | 10.559225 |
| 2    | 9.441218 | 9.982769 | 9.458449 | 10.541551 | 10.558782 |
| 3    | 9.441658 | 9.982733 | 9.458925 | 10.541075 | 10.558342 |
| 4    | 9.442096 | 9.982696 | 9.459400 | 10.540600 | 10.557903 |
| 5    | 9.442535 | 9.982660 | 9.459875 | 10.540125 | 10.557465 |
| 6    | 9.442973 | 9.982623 | 9.460349 | 10.539653 | 10.557027 |
| 7    | 9.443410 | 9.982587 | 9.460823 | 10.539177 | 10.556590 |
| 8    | 9.443847 | 9.982551 | 9.461297 | 10.538703 | 10.556153 |
| 9    | 9.444284 | 9.982514 | 9.461770 | 10.538230 | 10.555716 |
| 10   | 9.444720 | 9.982477 | 9.462242 | 10.537758 | 10.555280 |
| 11   | 9.445155 | 9.982441 | 9.462714 | 10.537285 | 10.554845 |
| 12   | 9.445590 | 9.982404 | 9.463186 | 10.536814 | 10.554410 |
| 13   | 9.446025 | 9.982367 | 9.463658 | 10.536342 | 10.553975 |
| 14   | 9.446459 | 9.982331 | 9.464128 | 10.535871 | 10.553541 |
| 15   | 9.446893 | 9.982294 | 9.464599 | 10.535401 | 10.553107 |
| 16   | 9.447326 | 9.982257 | 9.465069 | 10.534931 | 10.552674 |
| 17   | 9.447759 | 9.982220 | 9.465539 | 10.534461 | 10.552241 |
| 18   | 9.448191 | 9.982183 | 9.466008 | 10.533992 | 10.551809 |
| 19   | 9.448623 | 9.982146 | 9.466476 | 10.533523 | 10.551377 |
| 20   | 9.449054 | 9.982109 | 9.466945 | 10.533055 | 10.550946 |
| 21   | 9.449485 | 9.982072 | 9.467413 | 10.532587 | 10.550515 |
| 22   | 9.449915 | 9.982035 | 9.467880 | 10.532120 | 10.550085 |
| 23   | 9.450345 | 9.981998 | 9.468347 | 10.531653 | 10.546553 |
| 24   | 9.450775 | 9.981061 | 9.468814 | 10.531186 | 10.540225 |
| 25   | 9.451204 | 9.981924 | 9.469280 | 10.530720 | 10.548796 |
| 26   | 9.451632 | 9.981886 | 9.469746 | 10.530254 | 10.548368 |
| 27   | 9.452060 | 9.981849 | 9.470211 | 10.529789 | 10.547940 |
| 28   | 9.452488 | 9.981812 | 9.470676 | 10.529324 | 10.547512 |
| 29   | 9.452915 | 9.981774 | 9.471140 | 10.528859 | 10.547085 |
| 30   | 9.453342 | 9.981737 | 9.471605 | 10.528395 | 10.546658 |
|      | Sine.    |          | Tang.    |           | Secant.   |

73 Degrees.

Tangents and Secants.

16 Degrees.

| M  | Sine.    | Tang.    | Secant.  |                                  |
|----|----------|----------|----------|----------------------------------|
| 30 | 9.453342 | 9.981737 | 9.471605 | 10.018263 10.546658 30           |
| 31 | 9.453768 | 9.981699 | 9.472068 | 10.527931 10.018300 10.546233 29 |
| 32 | 9.454194 | 9.981662 | 9.472532 | 10.527468 10.018338 10.545806 28 |
| 33 | 9.454619 | 9.981624 | 9.472995 | 10.527005 10.018375 10.545381 27 |
| 34 | 9.455044 | 9.981587 | 9.473457 | 10.526543 10.018413 10.544956 26 |
| 35 | 9.455469 | 9.981549 | 9.473919 | 10.526081 10.018451 10.544531 25 |
| 36 | 9.455893 | 9.981512 | 9.474381 | 10.525619 10.018488 10.544107 24 |
| 37 | 9.456316 | 9.981474 | 9.474842 | 10.525158 10.018526 10.543684 23 |
| 38 | 9.456739 | 9.981436 | 9.475303 | 10.524697 10.018564 10.543261 22 |
| 39 | 9.457162 | 9.981399 | 9.475763 | 10.524237 10.018601 10.542838 21 |
| 40 | 9.457584 | 9.981361 | 9.476223 | 10.523777 10.018639 10.542416 20 |
| 41 | 9.458006 | 9.981323 | 9.476683 | 10.523317 10.018677 10.541994 19 |
| 42 | 9.458427 | 9.981285 | 9.477142 | 10.522858 10.018715 10.541573 18 |
| 43 | 9.458848 | 9.981247 | 9.477601 | 10.522399 10.018753 10.541152 17 |
| 44 | 9.459268 | 9.981209 | 9.478059 | 10.521941 10.018791 10.540722 16 |
| 45 | 9.459688 | 9.981171 | 9.478517 | 10.521483 10.018829 10.540312 15 |
| 46 | 9.460108 | 9.981133 | 9.478975 | 10.521025 10.018867 10.539892 14 |
| 47 | 9.460527 | 9.981095 | 9.479432 | 10.520568 10.018905 10.539473 13 |
| 48 | 9.460946 | 9.981057 | 9.479889 | 10.520111 10.018943 10.539054 12 |
| 49 | 9.461364 | 9.981019 | 9.480345 | 10.519655 10.018981 10.538636 11 |
| 50 | 9.461782 | 9.980980 | 9.480801 | 10.519199 10.019019 10.538218 10 |
| 51 | 9.462199 | 9.980942 | 9.481257 | 10.518743 10.019058 10.537801 9  |
| 52 | 9.462661 | 9.980904 | 9.481712 | 10.518288 10.019096 10.537384 8  |
| 53 | 9.463032 | 9.980866 | 9.482167 | 10.517833 10.019134 10.536968 7  |
| 54 | 9.463448 | 9.980827 | 9.482627 | 10.517379 10.019173 10.536552 6  |
| 55 | 9.463864 | 9.980789 | 9.483075 | 10.516925 10.019211 10.536135 5  |
| 56 | 9.464279 | 9.980750 | 9.483529 | 10.516471 10.019249 10.535724    |
| 57 | 9.464694 | 9.980712 | 9.483982 | 10.516018 10.019288 10.535306 3  |
| 58 | 9.465108 | 9.980673 | 9.484435 | 10.515565 10.019326 10.534892 2  |
| 59 | 9.465522 | 9.980635 | 9.484887 | 10.515113 10.019365 10.534478 1  |
| 60 | 9.465935 | 9.980596 | 9.485339 | 10.514661 10.019404 10.534065 0  |
|    | Sine.    | Tang.    | Secant.  |                                  |

73 Degrees.

A Table of Artificial Sines,

17 Degrees.

|    | Sine.    | Tang.    |          |           | Secant.   |             |
|----|----------|----------|----------|-----------|-----------|-------------|
| 1  | 9.465935 | 9.980596 | 9.485335 | 10.514661 | 10.019404 | 10.53406560 |
| 2  | 9.466348 | 9.980558 | 9.485751 | 10.514209 | 10.019442 | 10.53365259 |
| 3  | 9.466761 | 9.980515 | 9.486242 | 10.513758 | 10.019481 | 10.53323958 |
| 4  | 9.467173 | 9.980480 | 9.486693 | 10.513307 | 10.019520 | 10.53282757 |
| 5  | 9.467585 | 9.980441 | 9.487143 | 10.512857 | 10.019558 | 10.53241556 |
| 6  | 9.467996 | 9.980403 | 9.487593 | 10.512407 | 10.019597 | 10.53200455 |
| 7  | 9.468407 | 9.980364 | 9.488043 | 10.511957 | 10.019636 | 10.53159354 |
| 8  | 9.468817 | 9.980325 | 9.488492 | 10.511508 | 10.019675 | 10.53118353 |
| 9  | 9.469227 | 9.980286 | 9.488941 | 10.511059 | 10.019714 | 10.53077352 |
| 10 | 9.469637 | 9.980247 | 9.489390 | 10.510610 | 10.019753 | 10.53036351 |
| 11 | 9.470040 | 9.980208 | 9.489838 | 10.510162 | 10.019792 | 10.52995450 |
| 12 | 9.470455 | 9.980169 | 9.490286 | 10.509714 | 10.019831 | 10.52954549 |
| 13 | 9.470863 | 9.980130 | 9.490733 | 10.509267 | 10.019870 | 10.52913748 |
| 14 | 9.471271 | 9.980091 | 9.491180 | 10.508820 | 10.019909 | 10.52872947 |
| 15 | 9.471678 | 9.980052 | 9.491627 | 10.508373 | 10.019948 | 10.52832146 |
| 16 | 9.472086 | 9.980012 | 9.492073 | 10.507927 | 10.019988 | 10.52791449 |
| 17 | 9.472492 | 9.979973 | 9.492519 | 10.507481 | 10.020027 | 10.52750844 |
| 18 | 9.472898 | 9.979934 | 9.492965 | 10.507035 | 10.020066 | 10.52710143 |
| 19 | 9.473304 | 9.979895 | 9.493410 | 10.506590 | 10.020105 | 10.52669642 |
| 20 | 9.473710 | 9.979855 | 9.493854 | 10.506145 | 10.020144 | 10.52629041 |
| 21 | 9.474115 | 9.979816 | 9.494299 | 10.505701 | 10.020184 | 10.52588540 |
| 22 | 9.474519 | 9.979776 | 9.494743 | 10.505257 | 10.020224 | 10.52548139 |
| 23 | 9.474923 | 9.979737 | 9.495186 | 10.504813 | 10.020263 | 10.52507738 |
| 24 | 9.475327 | 9.979697 | 9.495630 | 10.504370 | 10.020303 | 10.52467337 |
| 25 | 9.475730 | 9.979659 | 9.496072 | 10.503927 | 10.020342 | 10.52426036 |
| 26 | 9.476133 | 9.979618 | 9.496515 | 10.503485 | 10.020382 | 10.52386735 |
| 27 | 9.476536 | 9.979578 | 9.496957 | 10.503043 | 10.020421 | 10.52346434 |
| 28 | 9.476938 | 9.979539 | 9.497399 | 10.502601 | 10.020461 | 10.52306233 |
| 29 | 9.477340 | 9.979499 | 9.497841 | 10.502159 | 10.020501 | 10.52266032 |
| 30 | 9.477741 | 9.979459 | 9.498282 | 10.501718 | 10.020541 | 10.52225931 |
|    | 9.478142 | 9.979419 | 9.498722 | 10.501278 | 10.020580 | 10.52185830 |
|    | Sine.    |          | Tang.    |           |           | Secant.     |

72 Degrees.

## Tangents and Secants.

17 Degrees.

|    | Sine.    | Tang.    | Secant.  |                        |
|----|----------|----------|----------|------------------------|
| 30 | 9.478142 | 9.979419 | 9.498722 | 10.020580 10.521858 30 |
| 31 | 9.478542 | 9.979380 | 9.499163 | 10.020620 10.521458 29 |
| 32 | 9.478942 | 9.979340 | 9.499603 | 10.020660 10.521058 28 |
| 33 | 9.479342 | 9.979300 | 9.500042 | 10.020700 10.520658 27 |
| 34 | 9.479741 | 9.979260 | 9.500481 | 10.020740 10.520258 26 |
| 35 | 9.480140 | 9.979220 | 9.500920 | 10.020780 10.519860 25 |
| 36 | 9.480538 | 9.979180 | 9.501359 | 10.020820 10.519461 24 |
| 37 | 9.480937 | 9.979140 | 9.501797 | 10.020860 10.519063 23 |
| 38 | 9.481334 | 9.979100 | 9.502235 | 10.020900 10.518666 22 |
| 39 | 9.481731 | 9.979059 | 9.502672 | 10.020941 10.518268 21 |
| 40 | 9.482128 | 9.979019 | 9.503109 | 10.020981 10.517872 20 |
| 41 | 9.482525 | 9.978979 | 9.503546 | 10.021021 10.517475 19 |
| 42 | 9.48292  | 9.978939 | 9.503982 | 10.021061 10.517079 18 |
| 43 | 9.483316 | 9.978899 | 9.504418 | 10.021102 10.516683 17 |
| 44 | 9.483712 | 9.978858 | 9.504854 | 10.021142 10.516288 16 |
| 45 | 9.484107 | 9.978817 | 9.505289 | 10.021182 10.515893 15 |
| 46 | 9.484501 | 9.978777 | 9.505724 | 10.021223 10.515499 14 |
| 47 | 9.484895 | 9.978736 | 9.506159 | 10.021263 10.515105 13 |
| 48 | 9.485289 | 9.978696 | 9.506593 | 10.021304 10.514711 12 |
| 49 | 9.485682 | 9.978655 | 9.507027 | 10.021344 10.514318 11 |
| 50 | 9.486075 | 9.978615 | 9.507460 | 10.021385 10.513925 10 |
| 51 | 9.486467 | 9.978574 | 9.507893 | 10.021426 10.513533 9  |
| 52 | 9.486859 | 9.978533 | 9.508326 | 10.021467 10.513140 8  |
| 53 | 9.487251 | 9.978493 | 9.508759 | 10.021507 10.512749 7  |
| 54 | 9.487643 | 9.978452 | 9.509191 | 10.021548 10.512357 6  |
| 55 | 9.488033 | 9.978411 | 9.509622 | 10.021589 10.511966 5  |
| 56 | 9.488424 | 9.978370 | 9.510054 | 10.021620 10.511576 4  |
| 57 | 9.488814 | 9.978329 | 9.510485 | 10.021670 10.511186 3  |
| 58 | 9.489204 | 9.978288 | 9.510916 | 10.021712 10.510795 2  |
| 59 | 9.489593 | 9.978247 | 9.511346 | 10.021753 10.510407 1  |
| 60 | 9.489982 | 9.978206 | 9.511776 | 10.021794 10.510018 0  |
|    | Sine.    | Tang.    | Secant.  |                        |

72 Degrees.

A Table of Artificial Sines,

18 Degrees.

| Min. | Sine.    | Tang.    |          | Secant.   | Min.        |
|------|----------|----------|----------|-----------|-------------|
| 0    | 9.489982 | 9.978206 | 9.511776 | 10.488224 | 10.51001860 |
| 1    | 9.490371 | 9.978185 | 9.512206 | 10.487794 | 10.50962959 |
| 2    | 9.490759 | 9.978142 | 9.512635 | 10.487365 | 10.50924158 |
| 3    | 9.491147 | 9.978083 | 9.513064 | 10.486936 | 10.50885357 |
| 4    | 9.491534 | 9.978042 | 9.513493 | 10.486507 | 10.50846556 |
| 5    | 9.491922 | 9.978001 | 9.513921 | 10.486079 | 10.50807055 |
| 6    | 9.492308 | 9.977959 | 9.514349 | 10.485651 | 10.50769254 |
| 7    | 9.492695 | 9.977918 | 9.514777 | 10.485223 | 10.50730553 |
| 8    | 9.493081 | 9.977877 | 9.515204 | 10.484796 | 10.50691952 |
| 9    | 9.493466 | 9.977835 | 9.515631 | 10.484369 | 10.50653451 |
| 10   | 9.493851 | 9.977794 | 9.516057 | 10.483942 | 10.50614650 |
| 11   | 9.494236 | 9.977752 | 9.516484 | 10.483516 | 10.50576449 |
| 12   | 9.494620 | 9.977711 | 9.516910 | 10.483090 | 10.50537948 |
| 13   | 9.495005 | 9.977669 | 9.517335 | 10.482665 | 10.50499547 |
| 14   | 9.495388 | 9.977628 | 9.517761 | 10.482239 | 10.50461246 |
| 15   | 9.495772 | 9.977586 | 9.518185 | 10.481814 | 10.50422845 |
| 16   | 9.496154 | 9.977544 | 9.518610 | 10.481390 | 10.50384544 |
| 17   | 9.496537 | 9.977503 | 9.519034 | 10.480966 | 10.50346343 |
| 18   | 9.496919 | 9.977461 | 9.519458 | 10.480542 | 10.50308141 |
| 19   | 9.497301 | 9.977419 | 9.519882 | 10.480118 | 10.50269942 |
| 20   | 9.497682 | 9.977377 | 9.520305 | 10.479695 | 10.50231740 |
| 21   | 9.498063 | 9.977335 | 9.520728 | 10.479272 | 10.50193639 |
| 22   | 9.498444 | 9.977293 | 9.521151 | 10.478849 | 10.50155638 |
| 23   | 9.498824 | 9.977251 | 9.521573 | 10.478427 | 10.50117537 |
| 24   | 9.499204 | 9.977209 | 9.521995 | 10.478005 | 10.50079536 |
| 25   | 9.499584 | 9.977167 | 9.522417 | 10.477583 | 10.50041635 |
| 26   | 9.499964 | 9.977125 | 9.522838 | 10.477162 | 10.50003734 |
| 27   | 9.500342 | 9.977083 | 9.523259 | 10.476741 | 10.49965833 |
| 28   | 9.500721 | 9.977041 | 9.523679 | 10.476320 | 10.49927932 |
| 29   | 9.501099 | 9.976999 | 9.524100 | 10.475900 | 10.49890131 |
| 30   | 9.501576 | 9.976957 | 9.524520 | 10.475480 | 10.49852430 |
| *    | Sine.    |          | Tang.    |           | Secant.     |

71 Degrees.

## Tangents and Secants.

18 Degrees.

| Min. | Sine.    | Tang.    | Secant.  |           |              |
|------|----------|----------|----------|-----------|--------------|
| 30   | 9.501478 | 9.976957 | 9.524520 | 10.475480 | 10.498524 30 |
| 31   | 9.501854 | 9.976914 | 9.524939 | 10.475060 | 10.498146 29 |
| 32   | 9.502231 | 9.976872 | 9.525359 | 10.474641 | 10.497769 28 |
| 33   | 9.502607 | 9.976830 | 9.525778 | 10.474222 | 10.497392 27 |
| 34   | 9.502984 | 9.976787 | 9.526197 | 10.473803 | 10.497016 26 |
| 35   | 9.503360 | 9.976745 | 9.526615 | 10.473385 | 10.496640 25 |
| 36   | 9.503735 | 9.976702 | 9.527033 | 10.472967 | 10.496265 24 |
| 37   | 9.504110 | 9.976660 | 9.527451 | 10.472549 | 10.495889 23 |
| 38   | 9.504485 | 9.976617 | 9.527868 | 10.472132 | 10.495515 22 |
| 39   | 9.504860 | 9.976574 | 9.528285 | 10.471715 | 10.495140 21 |
| 40   | 9.505234 | 9.976532 | 9.528702 | 10.471298 | 10.494766 20 |
| 41   | 9.505608 | 9.976489 | 9.529119 | 10.470881 | 10.494392 19 |
| 42   | 9.505981 | 9.976446 | 9.529535 | 10.470465 | 10.494019 18 |
| 43   | 9.506354 | 9.976404 | 9.529950 | 10.470049 | 10.493646 17 |
| 44   | 9.506727 | 9.976361 | 9.530366 | 10.469634 | 10.493273 16 |
| 45   | 9.507099 | 9.976318 | 9.530781 | 10.469219 | 10.492901 15 |
| 46   | 9.507471 | 9.976275 | 9.531196 | 10.468804 | 10.492529 14 |
| 47   | 9.507842 | 9.976232 | 9.531611 | 10.468389 | 10.492157 13 |
| 48   | 9.508214 | 9.976189 | 9.532025 | 10.467975 | 10.491786 12 |
| 49   | 9.508585 | 9.976146 | 9.532439 | 10.467561 | 10.491415 11 |
| 50   | 9.508956 | 9.976103 | 9.532853 | 10.467147 | 10.491044 10 |
| 51   | 9.509326 | 9.976060 | 9.533266 | 10.466734 | 10.490674 9  |
| 52   | 9.509696 | 9.976017 | 9.533679 | 10.466321 | 10.490304 8  |
| 53   | 9.510065 | 9.975974 | 9.534092 | 10.465908 | 10.489935 7  |
| 54   | 9.510434 | 9.975930 | 9.534504 | 10.465496 | 10.489566 6  |
| 55   | 9.510803 | 9.975887 | 9.534916 | 10.465084 | 10.489197 5  |
| 56   | 9.511172 | 9.975844 | 9.535328 | 10.464672 | 10.488828 4  |
| 57   | 9.511540 | 9.975800 | 9.535739 | 10.464261 | 10.488450 3  |
| 58   | 9.511907 | 9.975757 | 9.536150 | 10.463849 | 10.488092 2  |
| 59   | 9.512275 | 9.975713 | 9.536561 | 10.463439 | 10.487725 1  |
| 60   | 9.512642 | 9.975670 | 9.536977 | 10.463028 | 10.487358 0  |
|      | Sine.    | Tang.    | Secant.  |           | Min.         |

71 Degrees.

A Table of Artificial Sines,

19 Degrees.

| M  | Sine.    | Tang.    | Secant.  | M         |
|----|----------|----------|----------|-----------|
| 0  | 9.512642 | 9.975670 | 9.536972 | 10.024330 |
| 1  | 9.513009 | 9.975626 | 9.537382 | 10.024373 |
| 2  | 9.513375 | 9.975583 | 9.537792 | 10.024417 |
| 3  | 9.513741 | 9.975539 | 9.538202 | 10.024461 |
| 4  | 9.514107 | 9.975496 | 9.538611 | 10.024504 |
| 5  | 9.514472 | 9.975452 | 9.539020 | 10.024548 |
| 6  | 9.514837 | 9.975408 | 9.539429 | 10.024592 |
| 7  | 9.515202 | 9.975365 | 9.539837 | 10.024635 |
| 8  | 9.515566 | 9.975321 | 9.540245 | 10.024679 |
| 9  | 9.515930 | 9.975277 | 9.540653 | 10.024723 |
| 10 | 9.516294 | 9.975233 | 9.541061 | 10.024767 |
| 11 | 9.516657 | 9.975189 | 9.541468 | 10.024811 |
| 12 | 9.517020 | 9.975145 | 9.541875 | 10.024855 |
| 13 | 9.517382 | 9.975101 | 9.542281 | 10.024899 |
| 14 | 9.517745 | 9.975057 | 9.542688 | 10.024943 |
| 15 | 9.518107 | 9.975013 | 9.543094 | 10.024987 |
| 16 | 9.518468 | 9.974969 | 9.543499 | 10.025031 |
| 17 | 9.518829 | 9.974925 | 9.543905 | 10.025075 |
| 18 | 9.519190 | 9.974880 | 9.544310 | 10.025120 |
| 19 | 9.519551 | 9.974836 | 9.544715 | 10.025164 |
| 20 | 9.519911 | 9.974792 | 9.545119 | 10.025208 |
| 21 | 9.520271 | 9.974747 | 9.545524 | 10.025252 |
| 22 | 9.520631 | 9.974703 | 9.545928 | 10.025297 |
| 23 | 9.520990 | 9.974659 | 9.546331 | 10.025341 |
| 24 | 9.521349 | 9.974614 | 9.546735 | 10.025386 |
| 25 | 9.521707 | 9.974569 | 9.547138 | 10.025430 |
| 26 | 9.522066 | 9.974525 | 9.547540 | 10.025475 |
| 27 | 9.522423 | 9.974481 | 9.547943 | 10.025511 |
| 28 | 9.522781 | 9.974436 | 9.548345 | 10.025554 |
| 29 | 9.523138 | 9.974391 | 9.548747 | 10.025609 |
| 30 | 9.523495 | 9.974347 | 9.549149 | 10.025653 |
|    | Sine.    |          | Tang.    | Secant.   |

70 Degrees.

## Tangents and Secants.

19 Degrees.

| Min. | Sine.    | Tang.    | Secant.  | Min.      |
|------|----------|----------|----------|-----------|
| 30   | 9.523495 | 9.974347 | 9.549149 | 10.450851 |
| 31   | 9.523852 | 9.974302 | 9.549550 | 10.450450 |
| 32   | 9.524208 | 9.974257 | 9.549951 | 10.450049 |
| 33   | 9.524564 | 9.974212 | 9.550352 | 10.449648 |
| 34   | 9.524920 | 9.974167 | 9.550752 | 10.449248 |
| 35   | 9.525275 | 9.974122 | 9.551152 | 10.448847 |
| 36   | 9.525630 | 9.974077 | 9.551552 | 10.448448 |
| 37   | 9.525984 | 9.974032 | 9.551952 | 10.448048 |
| 38   | 9.526339 | 9.973987 | 9.552352 | 10.447649 |
| 39   | 9.526692 | 9.973942 | 9.552750 | 10.447250 |
| 40   | 9.527046 | 9.973897 | 9.553149 | 10.446851 |
| 41   | 9.527400 | 9.973852 | 9.553548 | 10.446452 |
| 42   | 9.527753 | 9.973807 | 9.553946 | 10.446054 |
| 43   | 9.528105 | 9.973761 | 9.554344 | 10.445656 |
| 44   | 9.528458 | 9.973716 | 9.554741 | 10.445258 |
| 45   | 9.528810 | 9.973671 | 9.555139 | 10.444861 |
| 46   | 9.529163 | 9.973625 | 9.555536 | 10.444464 |
| 47   | 9.529513 | 9.973580 | 9.555933 | 10.444067 |
| 48   | 9.529864 | 9.973535 | 9.556329 | 10.443671 |
| 49   | 9.530215 | 9.973489 | 9.556725 | 10.443274 |
| 50   | 9.530565 | 9.973443 | 9.557121 | 10.442879 |
| 51   | 9.530915 | 9.973398 | 9.557517 | 10.442483 |
| 52   | 9.531265 | 9.973352 | 9.557912 | 10.442086 |
| 53   | 9.531614 | 9.973307 | 9.558308 | 10.441692 |
| 54   | 9.531963 | 9.973261 | 9.558702 | 10.441297 |
| 55   | 9.532312 | 9.973215 | 9.559097 | 10.440903 |
| 56   | 9.532661 | 9.973169 | 9.559491 | 10.440509 |
| 57   | 9.533009 | 9.973124 | 9.559885 | 10.440115 |
| 58   | 9.533357 | 9.973078 | 9.560279 | 10.439721 |
| 59   | 9.533704 | 9.973032 | 9.560673 | 10.439327 |
| 60   | 9.534052 | 9.972986 | 9.561066 | 10.438934 |
|      | Sine.    | Tang.    | Secant.  | Min.      |

70 Degrees.

A Table of Artificial Sines,

20 Degrees.

| Min. | Sine.    | Tang.    |          | Secant.   |           |
|------|----------|----------|----------|-----------|-----------|
| 0    | 9.534052 | 9.972986 | 9.561066 | 10.438934 | 10.027014 |
| 1    | 9.534399 | 9.972940 | 9.561459 | 10.438541 | 10.027060 |
| 2    | 9.534745 | 9.972894 | 9.561851 | 10.438144 | 10.027506 |
| 3    | 9.535091 | 9.972848 | 9.562244 | 10.437756 | 10.027152 |
| 4    | 9.535437 | 9.972802 | 9.562636 | 10.437364 | 10.027808 |
| 5    | 9.535783 | 9.972755 | 9.563028 | 10.436972 | 10.027245 |
| 6    | 9.536129 | 9.972709 | 9.563419 | 10.436581 | 10.027291 |
| 7    | 9.536474 | 9.972663 | 9.563811 | 10.436189 | 10.027337 |
| 8    | 9.536818 | 9.972617 | 9.564202 | 10.435798 | 10.027383 |
| 9    | 9.537163 | 9.972570 | 9.564592 | 10.435407 | 10.027430 |
| 10   | 9.537507 | 9.972524 | 9.564983 | 10.435017 | 10.027476 |
| 11   | 9.537851 | 9.972477 | 9.565373 | 10.434627 | 10.027522 |
| 12   | 9.538194 | 9.972431 | 9.565763 | 10.434237 | 10.027569 |
| 13   | 9.538537 | 9.972384 | 9.566153 | 10.433847 | 10.027615 |
| 14   | 9.538880 | 9.972338 | 9.566542 | 10.433458 | 10.027662 |
| 15   | 9.539223 | 9.972291 | 9.566932 | 10.433068 | 10.027709 |
| 16   | 9.539565 | 9.972245 | 9.567320 | 10.432679 | 10.027755 |
| 17   | 9.539907 | 9.972198 | 9.567709 | 10.432291 | 10.027802 |
| 18   | 9.540249 | 9.972151 | 9.568097 | 10.431902 | 10.027849 |
| 19   | 9.540590 | 9.972105 | 9.568486 | 10.431514 | 10.027895 |
| 20   | 9.540931 | 9.972058 | 9.568873 | 10.431126 | 10.027942 |
| 21   | 9.541272 | 9.972011 | 9.569261 | 10.430739 | 10.027989 |
| 22   | 9.541613 | 9.971964 | 9.569648 | 10.430352 | 10.028036 |
| 23   | 9.541953 | 9.971917 | 9.570035 | 10.429964 | 10.028083 |
| 24   | 9.542292 | 9.971870 | 9.570422 | 10.429578 | 10.028130 |
| 25   | 9.542632 | 9.971823 | 9.570809 | 10.429191 | 10.028177 |
| 26   | 9.542971 | 9.971776 | 9.571195 | 10.428805 | 10.028224 |
| 27   | 9.543310 | 9.971729 | 9.571582 | 10.428419 | 10.028271 |
| 28   | 9.543649 | 9.971682 | 9.571967 | 10.428033 | 10.028318 |
| 29   | 9.543987 | 9.971634 | 9.572352 | 10.427648 | 10.028365 |
| 30   | 9.544325 | 9.971587 | 9.572738 | 10.427262 | 10.028412 |
|      | Sine.    |          | Tang.    |           | Secant.   |

69 Degrees

## Tangents and Secants.

20 Degrees.

|    | Sine.    | Tang.    |          | Secant.   |           |              |
|----|----------|----------|----------|-----------|-----------|--------------|
| 30 | 9.544325 | 9.971588 | 9.572738 | 10.427262 | 10.028412 | 10.455675 30 |
| 31 | 9.544653 | 9.971540 | 9.573123 | 10.426877 | 10.028460 | 10.455337 29 |
| 32 | 9.545000 | 9.971493 | 9.573507 | 10.426493 | 10.028507 | 10.454999 28 |
| 33 | 9.545338 | 9.971446 | 9.573892 | 10.426108 | 10.028554 | 10.454662 27 |
| 34 | 9.545674 | 9.971398 | 9.574276 | 10.425724 | 10.028602 | 10.454325 26 |
| 35 | 9.546011 | 9.971351 | 9.574660 | 10.425340 | 10.028649 | 10.453989 25 |
| 36 | 9.546347 | 9.971303 | 9.575044 | 10.424956 | 10.028696 | 10.453653 24 |
| 37 | 9.546683 | 9.971256 | 9.575429 | 10.424573 | 10.028744 | 10.453317 23 |
| 38 | 9.547019 | 9.971208 | 9.575810 | 10.424190 | 10.028792 | 10.452981 22 |
| 39 | 9.547354 | 9.971161 | 9.576193 | 10.423807 | 10.028839 | 10.452646 21 |
| 40 | 9.547689 | 9.971113 | 9.576576 | 10.423424 | 10.028887 | 10.452311 20 |
| 41 | 9.548024 | 9.971065 | 9.576958 | 10.423041 | 10.028934 | 10.451976 19 |
| 42 | 9.548358 | 9.971018 | 9.577341 | 10.422659 | 10.028982 | 10.451641 18 |
| 43 | 9.548693 | 9.970970 | 9.577723 | 10.422277 | 10.029030 | 10.451307 17 |
| 44 | 9.549027 | 9.970922 | 9.578104 | 10.421896 | 10.029078 | 10.450973 16 |
| 45 | 9.549360 | 9.970874 | 9.578486 | 10.421514 | 10.029126 | 10.450640 15 |
| 46 | 9.549693 | 9.970826 | 9.578867 | 10.421133 | 10.029173 | 10.450306 14 |
| 47 | 9.550026 | 9.970779 | 9.579248 | 10.420752 | 10.029221 | 10.449973 13 |
| 48 | 9.550359 | 9.970731 | 9.579629 | 10.420371 | 10.029269 | 10.449641 12 |
| 49 | 9.550692 | 9.970683 | 9.580009 | 10.419991 | 10.029317 | 10.449308 11 |
| 50 | 9.551024 | 9.970635 | 9.580389 | 10.419611 | 10.029355 | 10.448976 10 |
| 51 | 9.551356 | 9.970586 | 9.580769 | 10.419231 | 10.029413 | 10.448644 9  |
| 52 | 9.551687 | 9.970538 | 9.581149 | 10.418851 | 10.029462 | 10.448313 8  |
| 53 | 9.552018 | 9.970490 | 9.581528 | 10.418472 | 10.029510 | 10.447982 7  |
| 54 | 9.552349 | 9.970442 | 9.581907 | 10.418093 | 10.029558 | 10.447651 6  |
| 55 | 9.552680 | 9.970394 | 9.582286 | 10.417714 | 10.029606 | 10.447320 5  |
| 56 | 9.553010 | 9.970345 | 9.582665 | 10.417335 | 10.029655 | 10.446989 4  |
| 57 | 9.553341 | 9.970297 | 9.583043 | 10.416956 | 10.029702 | 10.446659 3  |
| 58 | 9.553670 | 9.970249 | 9.583422 | 10.416578 | 10.029751 | 10.446330 2  |
| 59 | 9.554000 | 9.970200 | 9.583800 | 10.416200 | 10.029800 | 10.446000 1  |
| 60 | 9.554329 | 9.970152 | 9.584177 | 10.415823 | 10.029848 | 10.445671 0  |
|    | Sine.    |          | Tang.    |           | Secant.   |              |

69 Degrees:

A Table of Artificial Sines,

21 Degrees.

| M  | Sine.    |          | Tang.    |           | Secant.   |           |
|----|----------|----------|----------|-----------|-----------|-----------|
| C  | 9.554329 | 9.970152 | 9.584177 | 10.415823 | 10.029848 | 10.445670 |
| 1  | 9.554658 | 9.970103 | 9.584555 | 10.415445 | 10.029897 | 10.445342 |
| 2  | 9.554987 | 9.970055 | 9.584932 | 10.415068 | 10.029945 | 10.445013 |
| 3  | 9.555315 | 9.970006 | 9.585309 | 10.414691 | 10.039994 | 10.444685 |
| 4  | 9.555643 | 9.969957 | 9.585686 | 10.414314 | 10.030042 | 10.444357 |
| 5  | 9.555971 | 9.969909 | 9.586062 | 10.413938 | 10.030091 | 10.444014 |
| 6  | 9.556299 | 9.969860 | 9.586439 | 10.413561 | 10.030140 | 10.443701 |
| 7  | 9.556626 | 9.969811 | 9.586815 | 10.413185 | 10.030189 | 10.443374 |
| 8  | 9.556953 | 9.969762 | 9.587190 | 10.412810 | 10.030238 | 10.443047 |
| 9  | 9.557280 | 9.969714 | 9.587566 | 10.412434 | 10.030286 | 10.442720 |
| 10 | 9.557606 | 9.969665 | 9.587941 | 10.412059 | 10.030335 | 10.442394 |
| 11 | 9.557932 | 9.969616 | 9.588316 | 10.411684 | 10.030384 | 10.442068 |
| 12 | 9.558258 | 9.969567 | 9.588691 | 10.411309 | 10.030433 | 10.441742 |
| 13 | 9.558583 | 9.969518 | 9.589066 | 10.410933 | 10.030482 | 10.441416 |
| 14 | 9.558909 | 9.969469 | 9.589440 | 10.410560 | 10.030531 | 10.441092 |
| 15 | 9.559234 | 9.969420 | 9.589814 | 10.410186 | 10.030580 | 10.440761 |
| 16 | 9.559558 | 9.969370 | 9.590188 | 10.409812 | 10.030630 | 10.440441 |
| 17 | 9.559883 | 9.969321 | 9.590562 | 10.409438 | 10.030679 | 10.440117 |
| 18 | 9.560207 | 9.969272 | 9.590935 | 10.409065 | 10.030728 | 10.439793 |
| 19 | 9.560531 | 9.969223 | 9.591308 | 10.408692 | 10.030777 | 10.439469 |
| 20 | 9.560855 | 9.969173 | 9.591681 | 10.408319 | 10.030827 | 10.439145 |
| 21 | 9.561178 | 9.969124 | 9.592054 | 10.407946 | 10.030876 | 10.438822 |
| 22 | 9.561501 | 9.969075 | 9.592426 | 10.407574 | 10.030925 | 10.438499 |
| 23 | 9.561824 | 9.969025 | 9.592798 | 10.407201 | 10.030975 | 10.438176 |
| 24 | 9.562145 | 9.968976 | 9.593170 | 10.406829 | 10.031024 | 10.437854 |
| 25 | 9.562468 | 9.968926 | 9.593542 | 10.406458 | 10.031074 | 10.437531 |
| 26 | 9.562795 | 9.968877 | 9.593914 | 10.406086 | 10.031123 | 10.437210 |
| 27 | 9.563112 | 9.968827 | 9.594285 | 10.405715 | 10.031173 | 10.436888 |
| 28 | 9.563433 | 9.968777 | 9.594656 | 10.405344 | 10.031223 | 10.436566 |
| 29 | 9.563755 | 9.968728 | 9.595027 | 10.404973 | 10.031272 | 10.436245 |
| 30 | 9.564075 | 9.968678 | 9.595397 | 10.404602 | 10.031322 | 10.435924 |
|    | Sine.    |          | Tang.    |           | Secant.   |           |

68 Degrees.

Tangents and Secants.

21 Degrees.

| Min. | Sine.    |          | Tang.    |           | Secant.   |              |
|------|----------|----------|----------|-----------|-----------|--------------|
| 30   | 9.564075 | 9.968678 | 9.595397 | 10.404602 | 10.031322 | 10.435925 30 |
| 31   | 9.564396 | 9.968628 | 9.595768 | 10.404232 | 10.031372 | 10.435605 29 |
| 32   | 9.564716 | 9.968578 | 9.596138 | 10.403862 | 10.031422 | 10.435284 28 |
| 33   | 9.565036 | 9.968528 | 9.596508 | 10.403492 | 10.031472 | 10.434964 27 |
| 34   | 9.565356 | 9.968478 | 9.596878 | 10.403122 | 10.031521 | 10.434644 26 |
| 35   | 9.565676 | 9.968429 | 9.597247 | 10.402753 | 10.031571 | 10.434324 25 |
| 36   | 9.565995 | 9.968379 | 9.597616 | 10.402384 | 10.031621 | 10.434005 24 |
| 37   | 9.566314 | 9.968328 | 9.597985 | 10.402015 | 10.031671 | 10.433686 23 |
| 38   | 9.566632 | 9.968278 | 9.598354 | 10.401646 | 10.031722 | 10.433368 22 |
| 39   | 9.566951 | 9.968228 | 9.598722 | 10.401277 | 10.031772 | 10.433049 21 |
| 40   | 9.567209 | 9.968178 | 9.599091 | 10.400909 | 10.031822 | 10.432731 20 |
| 41   | 9.567587 | 9.968128 | 9.599459 | 10.400541 | 10.031872 | 10.432413 19 |
| 42   | 9.567904 | 9.968078 | 9.599827 | 10.400173 | 10.031922 | 10.432096 18 |
| 43   | 9.568222 | 9.968027 | 9.600194 | 10.399806 | 10.031973 | 10.431778 17 |
| 44   | 9.568539 | 9.967977 | 9.600562 | 10.399438 | 10.032023 | 10.431461 16 |
| 45   | 9.568855 | 9.967927 | 9.600929 | 10.399071 | 10.032073 | 10.431144 15 |
| 46   | 9.569172 | 9.967876 | 9.601296 | 10.398704 | 10.032124 | 10.430828 14 |
| 47   | 9.569488 | 9.967826 | 9.601662 | 10.398337 | 10.032174 | 10.430512 13 |
| 48   | 9.569804 | 9.967775 | 9.602029 | 10.397971 | 10.032225 | 10.430196 12 |
| 49   | 9.570120 | 9.967725 | 9.602395 | 10.397605 | 10.032275 | 10.429880 11 |
| 50   | 9.570435 | 9.967674 | 9.602761 | 10.397239 | 10.032326 | 10.429564 10 |
| 51   | 9.570751 | 9.967623 | 9.603127 | 10.396873 | 10.032376 | 10.429249 9  |
| 52   | 9.571066 | 9.967573 | 9.603493 | 10.396507 | 10.032427 | 10.428934 8  |
| 53   | 9.571380 | 9.967522 | 9.603858 | 10.396142 | 10.032478 | 10.428620 7  |
| 54   | 9.571695 | 9.967471 | 9.604223 | 10.395777 | 10.032529 | 10.428305 6  |
| 55   | 9.572009 | 9.967420 | 9.604588 | 10.395412 | 10.032579 | 10.427991 5  |
| 56   | 9.572323 | 9.967370 | 9.604953 | 10.395047 | 10.032630 | 10.427677 4  |
| 57   | 9.572636 | 9.967319 | 9.605317 | 10.394683 | 10.032681 | 10.427364 3  |
| 58   | 9.572949 | 9.967268 | 9.605682 | 10.394318 | 10.032732 | 10.427050 2  |
| 59   | 9.573263 | 9.967217 | 9.606046 | 10.393954 | 10.032783 | 10.426737 1  |
| 60   | 9.573575 | 9.967166 | 9.606410 | 10.393590 | 10.032834 | 10.426425 0  |
|      | Sine.    |          | Tang.    |           | Secant.   |              |

68 Degrees.

T 2

68

A Table of Artificial Sines,

22 Degrees.

| Min. | Sine.    | Tang.    | Secant.  |           |
|------|----------|----------|----------|-----------|
| 0    | 9.573575 | 9.967166 | 9.606410 | 10.393590 |
| 1    | 9.573888 | 9.967115 | 9.606773 | 10.393227 |
| 2    | 9.574200 | 9.967064 | 9.607137 | 10.392863 |
| 3    | 9.574512 | 9.967012 | 9.607500 | 10.392500 |
| 4    | 9.574824 | 9.966961 | 9.607863 | 10.392137 |
| 5    | 9.575136 | 9.966910 | 9.608225 | 10.391775 |
| 6    | 9.575447 | 9.966859 | 9.608588 | 10.391412 |
| 7    | 9.575758 | 9.966807 | 9.608950 | 10.391050 |
| 8    | 9.576068 | 9.966756 | 9.609312 | 10.390688 |
| 9    | 9.576379 | 9.966705 | 9.609674 | 10.390326 |
| 10   | 9.576689 | 9.966653 | 9.610036 | 10.389964 |
| 11   | 9.576999 | 9.966602 | 9.610397 | 10.389602 |
| 12   | 9.577309 | 9.966550 | 9.610759 | 10.389241 |
| 13   | 9.577618 | 9.966499 | 9.611120 | 10.388880 |
| 14   | 9.577927 | 9.966447 | 9.611480 | 10.388520 |
| 15   | 9.578236 | 9.966395 | 9.611841 | 10.388159 |
| 16   | 9.578545 | 9.966344 | 9.612001 | 10.387799 |
| 17   | 9.578853 | 9.966292 | 9.612561 | 10.387438 |
| 18   | 9.579162 | 9.966240 | 9.612921 | 10.387079 |
| 19   | 9.579469 | 9.966188 | 9.613281 | 10.386719 |
| 20   | 9.579777 | 9.966136 | 9.613641 | 10.386359 |
| 21   | 9.580084 | 9.966085 | 9.614000 | 10.386000 |
| 22   | 9.580392 | 9.966033 | 9.614359 | 10.385641 |
| 23   | 9.580699 | 9.965981 | 9.614718 | 10.385282 |
| 24   | 9.581005 | 9.965928 | 9.615077 | 10.384923 |
| 25   | 9.581312 | 9.965876 | 9.615435 | 10.384565 |
| 26   | 9.581618 | 9.965824 | 9.615793 | 10.384207 |
| 27   | 9.581924 | 9.965772 | 9.616151 | 10.383849 |
| 28   | 9.582229 | 9.965720 | 9.616509 | 10.383491 |
| 29   | 9.582534 | 9.965668 | 9.616867 | 10.383133 |
| 30   | 9.582840 | 9.965615 | 9.617224 | 10.382776 |
|      | Sine.    |          | Tang.    | Secant.   |

67 Degrees.

## Tangents and Secants.

22 Degrees.

| Sine.    | Tang.    | Secant.  |                                   |
|----------|----------|----------|-----------------------------------|
| 9.582840 | 9.965615 | 9.617224 | 10.034385 10.417160 30            |
| 9.583144 | 9.965583 | 9.617581 | 10.034418 10.416855 29            |
| 9.583449 | 9.965511 | 9.617938 | 10.0382061 10.034489 10.416551 28 |
| 9.583753 | 9.965458 | 9.618295 | 10.381705 10.034542 10.416246 27  |
| 9.584058 | 9.965406 | 9.618652 | 10.381348 10.034594 10.415942 26  |
| 9.584361 | 9.965353 | 9.619008 | 10.380992 10.034647 10.415638 25  |
| 9.584665 | 9.965301 | 9.619364 | 10.380635 10.034699 10.415335 24  |
| 9.584968 | 9.965248 | 9.619720 | 10.380279 10.034752 10.415031 23  |
| 9.585272 | 9.965195 | 9.620076 | 10.379924 10.034805 10.414728 22  |
| 9.585574 | 9.965143 | 9.620432 | 10.379568 10.034857 10.414425 21  |
| 9.585877 | 9.965090 | 9.620787 | 10.379213 10.034910 10.414123 20  |
| 9.586179 | 9.965037 | 9.621142 | 10.378858 10.034963 10.413820 19  |
| 9.586482 | 9.964984 | 9.621497 | 10.378503 10.035016 10.413518 18  |
| 9.586783 | 9.964931 | 9.621852 | 10.378148 10.035069 10.413216 17  |
| 9.587085 | 9.964878 | 9.622207 | 10.377792 10.035121 10.412915 16  |
| 9.587386 | 9.964826 | 9.622561 | 10.377439 10.035174 10.412613 15  |
| 9.587688 | 9.964773 | 9.622915 | 10.377085 10.035227 10.412312 14  |
| 9.587988 | 9.964719 | 9.623269 | 10.376731 10.035280 10.412011 13  |
| 9.588289 | 9.964666 | 9.623623 | 10.376377 10.035333 10.411711 12  |
| 9.588591 | 9.964613 | 9.623976 | 10.376024 10.035387 10.411410 11  |
| 9.588890 | 9.964560 | 9.624330 | 10.375670 10.035440 10.411110 10  |
| 9.589190 | 9.964507 | 9.624682 | 10.375317 10.035493 10.410810 9   |
| 9.589489 | 9.964454 | 9.625035 | 10.374964 10.035546 10.410511 8   |
| 9.589789 | 9.964400 | 9.625388 | 10.374612 10.035600 10.410211 7   |
| 9.590088 | 9.964347 | 9.625740 | 10.374259 10.035659 10.409912 6   |
| 9.590387 | 9.964294 | 9.626093 | 10.373907 10.035706 10.409613 5   |
| 9.590686 | 9.964240 | 9.626445 | 10.373555 10.035760 10.409314 4   |
| 9.590984 | 9.964187 | 9.626797 | 10.373203 10.035813 10.409016 3   |
| 9.591282 | 9.964133 | 9.627149 | 10.372851 10.035867 10.408718 2   |
| 9.591580 | 9.964080 | 9.627501 | 10.372499 10.035920 10.408420 1   |
| 9.591878 | 9.964026 | 9.627852 | 10.372148 10.035974 10.408122 0   |
| Sine.    | Tang.    | Secant.  | Min.                              |

67 Degrees

A Table of Artificial Sines,

23 Degrees.

| Min. | Sine.    | Tang.    | Secant.  | Min.      |           |
|------|----------|----------|----------|-----------|-----------|
| 0    | 9.591878 | 9.964026 | 9.627852 | 10.372148 | 10.408122 |
| 1    | 9.592175 | 9.963972 | 9.628203 | 10.371797 | 10.407824 |
| 2    | 9.592473 | 9.963919 | 9.628554 | 10.371448 | 10.407527 |
| 3    | 9.592770 | 9.963865 | 9.628905 | 10.371095 | 10.407230 |
| 4    | 9.593067 | 9.963811 | 9.629255 | 10.370744 | 10.406933 |
| 5    | 9.593363 | 9.963757 | 9.629606 | 10.370394 | 10.406637 |
| 6    | 9.593659 | 9.963704 | 9.629956 | 10.370044 | 10.406341 |
| 7    | 9.593955 | 9.963650 | 9.630306 | 10.369694 | 10.406044 |
| 8    | 9.594251 | 9.963596 | 9.630656 | 10.369344 | 10.405749 |
| 9    | 9.594547 | 9.963542 | 9.631005 | 10.368995 | 10.405453 |
| 10   | 9.594842 | 9.963488 | 9.631354 | 10.368645 | 10.405158 |
| 11   | 9.595137 | 9.963434 | 9.631704 | 10.368296 | 10.404863 |
| 12   | 9.595432 | 9.963379 | 9.632053 | 10.367947 | 10.404568 |
| 13   | 9.595727 | 9.963325 | 9.632401 | 10.367598 | 10.404273 |
| 14   | 9.596021 | 9.963271 | 9.632750 | 10.367250 | 10.403979 |
| 15   | 9.596315 | 9.963217 | 9.633098 | 10.366901 | 10.403685 |
| 16   | 9.596609 | 9.963162 | 9.633447 | 10.366553 | 10.403391 |
| 17   | 9.596903 | 9.963108 | 9.633795 | 10.366205 | 10.403097 |
| 18   | 9.597196 | 9.963054 | 9.634143 | 10.365857 | 10.402803 |
| 19   | 9.597490 | 9.962999 | 9.634490 | 10.365510 | 10.402510 |
| 20   | 9.597783 | 9.962945 | 9.634838 | 10.365162 | 10.402217 |
| 21   | 9.598075 | 9.962890 | 9.635185 | 10.364815 | 10.401925 |
| 22   | 9.598368 | 9.962836 | 9.635532 | 10.364468 | 10.401632 |
| 23   | 9.598660 | 9.962781 | 9.635879 | 10.364121 | 10.401340 |
| 24   | 9.598952 | 9.962727 | 9.636226 | 10.363774 | 10.401048 |
| 25   | 9.599244 | 9.962672 | 9.636572 | 10.363428 | 10.400756 |
| 26   | 9.599536 | 9.962617 | 9.636918 | 10.363081 | 10.400464 |
| 27   | 9.599827 | 9.962562 | 9.637265 | 10.362735 | 10.400173 |
| 28   | 9.600118 | 9.962508 | 9.637611 | 10.362389 | 10.399882 |
| 29   | 9.600409 | 9.962453 | 9.637956 | 10.362044 | 10.399591 |
| 30   | 9.600700 | 9.962398 | 9.638302 | 10.361698 | 10.399300 |
|      | Sine.    | Tang.    | Secant.  |           |           |

66 Degrees.

## Tangents and Secants.

23 Degrees.

| Min. | Sine.    | Tang.    | Secant.  |           |              |
|------|----------|----------|----------|-----------|--------------|
| 30   | 9.600700 | 9.962398 | 9.638302 | 10.361698 | 10.399300 3° |
| 31   | 9.600990 | 9.962343 | 9.638647 | 10.361353 | 10.399010 29 |
| 32   | 9.601280 | 9.962288 | 9.638992 | 10.361007 | 10.398720 28 |
| 33   | 9.601570 | 9.962233 | 9.639337 | 10.360662 | 10.398430 27 |
| 34   | 9.601860 | 9.962178 | 9.639682 | 10.360318 | 10.398140 26 |
| 35   | 9.602149 | 9.962123 | 9.640027 | 10.359973 | 10.397850 25 |
| 36   | 9.602439 | 9.962067 | 9.640371 | 10.359629 | 10.397561 24 |
| 37   | 9.602728 | 9.962012 | 9.640716 | 10.359284 | 10.397272 23 |
| 38   | 9.603017 | 9.961957 | 9.641060 | 10.358940 | 10.396983 22 |
| 39   | 9.603305 | 9.961902 | 9.641404 | 10.358596 | 10.396695 21 |
| 40   | 9.603594 | 9.961846 | 9.641747 | 10.358253 | 10.396406 20 |
| 41   | 9.603882 | 9.961791 | 9.642091 | 10.357909 | 10.396118 19 |
| 42   | 9.604170 | 9.961735 | 9.642434 | 10.357566 | 10.395830 18 |
| 43   | 9.604457 | 9.961680 | 9.642777 | 10.357223 | 10.395543 17 |
| 44   | 9.604745 | 9.961624 | 9.643120 | 10.356880 | 10.395255 16 |
| 45   | 9.605032 | 9.961569 | 9.643463 | 10.356537 | 10.394968 15 |
| 46   | 9.605319 | 9.961513 | 9.643805 | 10.356194 | 10.394681 14 |
| 47   | 9.605606 | 9.961458 | 9.644148 | 10.355852 | 10.394394 13 |
| 48   | 9.605892 | 9.961402 | 9.644490 | 10.355510 | 10.394108 12 |
| 49   | 9.606179 | 9.961346 | 9.644832 | 10.355168 | 10.393821 11 |
| 50   | 9.606465 | 9.961290 | 9.645174 | 10.354826 | 10.393535 10 |
| 51   | 9.606751 | 9.961235 | 9.645516 | 10.354484 | 10.393249 9  |
| 52   | 9.607036 | 9.961179 | 9.645857 | 10.354142 | 10.392954 8  |
| 53   | 9.607322 | 9.961123 | 9.646199 | 10.353801 | 10.392678 7  |
| 54   | 9.607607 | 9.961067 | 9.646540 | 10.352460 | 10.392393 6  |
| 55   | 9.607892 | 9.961011 | 9.646881 | 10.351119 | 10.392108 5  |
| 56   | 9.608176 | 9.960955 | 9.647222 | 10.352778 | 10.391823 4  |
| 57   | 9.608461 | 9.960899 | 9.647562 | 10.352438 | 10.391531 3  |
| 58   | 9.608745 | 9.960842 | 9.647903 | 10.352097 | 10.391255 2  |
| 59   | 9.609029 | 9.960786 | 9.648243 | 10.351757 | 10.391071 1  |
| 60   | 9.609313 | 9.960730 | 9.648583 | 10.351417 | 10.390887 0  |
|      | Sine.    | Tang.    | Secant.  | Min.      |              |

66 Degrees.

A Table of Artificial Sines,

24 Degrees.

| N. | Sinc.    | Tang.    |          | Secant.   | M.          |
|----|----------|----------|----------|-----------|-------------|
| 0  | 9.609313 | 9.960730 | 9.648583 | 10.351417 | 10.39068760 |
| 1  | 9.609597 | 9.960674 | 9.648923 | 10.351077 | 10.39040359 |
| 2  | 9.609880 | 9.960618 | 9.649263 | 10.350737 | 10.39012058 |
| 3  | 9.610163 | 9.960561 | 9.649602 | 10.350398 | 10.38983657 |
| 4  | 9.610446 | 9.960505 | 9.649942 | 10.350058 | 10.38955356 |
| 5  | 9.610729 | 9.960448 | 9.650281 | 10.349719 | 10.38927155 |
| 6  | 9.611012 | 9.960392 | 9.650620 | 10.349380 | 10.38898854 |
| 7  | 9.611294 | 9.960335 | 9.650959 | 10.349041 | 10.38870653 |
| 8  | 9.611576 | 9.960277 | 9.651297 | 10.348703 | 10.38842452 |
| 9  | 9.611858 | 9.960222 | 9.651636 | 10.348364 | 10.38814251 |
| 10 | 9.612140 | 9.960165 | 9.651974 | 10.348026 | 10.38786050 |
| 11 | 9.612421 | 9.960109 | 9.652312 | 10.347680 | 10.38757949 |
| 12 | 9.612702 | 9.960052 | 9.652650 | 10.347350 | 10.38729848 |
| 13 | 9.612983 | 9.959995 | 9.652988 | 10.347012 | 10.38701747 |
| 14 | 9.613264 | 9.959928 | 9.653326 | 10.346674 | 10.38673646 |
| 15 | 9.613545 | 9.959881 | 9.653563 | 10.346337 | 10.38645545 |
| 16 | 9.613825 | 9.959825 | 9.654000 | 10.346000 | 10.38617544 |
| 17 | 9.614105 | 9.959768 | 9.654337 | 10.345662 | 10.38589543 |
| 18 | 9.614385 | 9.959711 | 9.654674 | 10.345326 | 10.38561542 |
| 19 | 9.614665 | 9.959653 | 9.655011 | 10.344989 | 10.38533541 |
| 20 | 9.614944 | 9.959596 | 9.655348 | 10.344652 | 10.38505640 |
| 21 | 9.615223 | 9.959539 | 9.655684 | 10.344316 | 10.38477739 |
| 22 | 9.615502 | 9.959482 | 9.656020 | 10.343980 | 10.38449838 |
| 23 | 9.615781 | 9.959425 | 9.656356 | 10.343644 | 10.38421937 |
| 24 | 9.616060 | 9.959267 | 9.656092 | 10.343208 | 10.38394036 |
| 25 | 9.616338 | 9.959310 | 9.657028 | 10.342972 | 10.38366235 |
| 26 | 9.616616 | 9.959253 | 9.657364 | 10.342636 | 10.38338434 |
| 27 | 9.616894 | 9.959195 | 9.657695 | 10.342301 | 10.38310633 |
| 28 | 9.617172 | 9.959138 | 9.658034 | 10.341966 | 10.38282832 |
| 29 | 9.617450 | 9.959080 | 9.658365 | 10.341631 | 10.38255031 |
| 30 | 9.617727 | 9.959023 | 9.658704 | 10.341296 | 10.38227330 |
|    |          | Sine.    |          | Tang.     | Secant.     |

65 Degrees.

# Tangents and Secants.

24 Degrees.

| M  | Sine.    |          | Tang.    |           | Secant.   |             |
|----|----------|----------|----------|-----------|-----------|-------------|
| 30 | 9.617727 | 9.959023 | 9.658704 | 10.341296 | 10.040977 | 10.38227330 |
| 31 | 9.618004 | 9.958965 | 9.659039 | 10.340961 | 10.041035 | 10.38199619 |
| 32 | 9.618281 | 9.958908 | 9.659373 | 10.340627 | 10.041092 | 10.38171928 |
| 33 | 9.618558 | 9.958850 | 9.659708 | 10.340292 | 10.041150 | 10.38144227 |
| 34 | 9.618834 | 9.958792 | 9.660042 | 10.339958 | 10.041208 | 10.38116626 |
| 35 | 9.619110 | 9.958734 | 9.660376 | 10.339624 | 10.041265 | 10.38089025 |
| 36 | 9.619386 | 9.958677 | 9.660710 | 10.339290 | 10.041323 | 10.38061424 |
| 37 | 9.619662 | 9.958619 | 9.661043 | 10.338956 | 10.041381 | 10.38033823 |
| 38 | 9.619938 | 9.958561 | 9.661377 | 10.338623 | 10.041439 | 10.38006222 |
| 39 | 9.620213 | 9.958503 | 9.661710 | 10.338290 | 10.041497 | 10.37978721 |
| 40 | 9.620488 | 9.958445 | 9.662043 | 10.337957 | 10.041555 | 10.37951220 |
| 41 | 9.620763 | 9.958387 | 9.662376 | 10.337623 | 10.041613 | 10.37923719 |
| 42 | 9.621038 | 9.958329 | 9.662709 | 10.337291 | 10.041671 | 10.37895218 |
| 43 | 9.621313 | 9.958271 | 9.663042 | 10.336958 | 10.041729 | 10.37868717 |
| 44 | 9.621587 | 9.958212 | 9.663374 | 10.336625 | 10.041787 | 10.37841316 |
| 45 | 9.621861 | 9.958154 | 9.663707 | 10.336293 | 10.041846 | 10.37813915 |
| 46 | 9.622135 | 9.958096 | 9.664039 | 10.335961 | 10.041904 | 10.37786514 |
| 47 | 9.622409 | 9.958038 | 9.664371 | 10.335626 | 10.041962 | 10.37759113 |
| 48 | 9.622682 | 9.957979 | 9.664703 | 10.335297 | 10.042021 | 10.37731812 |
| 49 | 9.622956 | 9.957921 | 9.665035 | 10.334965 | 10.042079 | 10.37704411 |
| 50 | 9.623229 | 9.957863 | 9.665366 | 10.334634 | 10.042137 | 10.37677110 |
| 51 | 9.623502 | 9.957804 | 9.665697 | 10.334302 | 10.042196 | 10.37649809 |
| 52 | 9.623774 | 9.957746 | 9.666029 | 10.333971 | 10.042254 | 10.37622608 |
| 53 | 9.624047 | 9.957687 | 9.666360 | 10.333640 | 10.042313 | 10.37595307 |
| 54 | 9.624319 | 9.957628 | 9.666691 | 10.333309 | 10.042272 | 10.37568106 |
| 55 | 9.624591 | 9.957570 | 9.667021 | 10.332979 | 10.042430 | 10.37540905 |
| 56 | 9.624863 | 9.957511 | 9.667352 | 10.332648 | 10.042489 | 10.37513704 |
| 57 | 9.625135 | 9.957452 | 9.667682 | 10.332318 | 10.042548 | 10.37486503 |
| 58 | 9.625406 | 9.957393 | 9.668013 | 10.331987 | 10.042607 | 10.37459402 |
| 59 | 9.625677 | 9.957335 | 9.668343 | 10.331657 | 10.042665 | 10.37432301 |
| 60 | 9.625948 | 9.957276 | 9.668672 | 10.331327 | 10.042724 | 10.37405200 |
|    | Sine.    |          | Tang.    |           | Secant.   |             |

65 Degrees.

A Table of Artificial Sines,

25 Degrees.

| M  | Sine.    |          | Tang.    |           | Secant.   |             | M  |
|----|----------|----------|----------|-----------|-----------|-------------|----|
| 0  | 9.625948 | .957270  | 9.668672 | 10.331327 | 10.042724 | 10.37405260 | 30 |
| 1  | 9.626215 | 9.957217 | 9.669002 | 10.330998 | 10.042783 | 10.37378159 | 31 |
| 2  | 9.626490 | 9.957158 | 9.669332 | 10.330668 | 10.042842 | 10.37351058 | 32 |
| 3  | 9.626760 | 9.957099 | 9.669661 | 10.330339 | 10.042901 | 10.37324067 | 33 |
| 4  | 9.627030 | 9.957040 | 9.669991 | 10.320009 | 10.042960 | 10.37297056 | 34 |
| 5  | 9.627300 | 9.956981 | 9.670320 | 10.329680 | 10.043019 | 10.37270055 | 35 |
| 6  | 9.627570 | 9.956921 | 9.670649 | 10.329351 | 10.043078 | 10.37243054 | 36 |
| 7  | 9.627840 | 9.956862 | 9.670977 | 10.329023 | 10.043138 | 10.37216053 | 37 |
| 8  | 9.628109 | 9.956803 | 9.671306 | 10.328694 | 10.043197 | 10.37189152 | 38 |
| 9  | 9.628378 | 9.056744 | 9.671634 | 10.328365 | 10.043256 | 10.37162251 | 39 |
| 10 | 9.628647 | 9.950684 | 9.671963 | 10.328037 | 10.043316 | 10.37135300 | 40 |
| 11 | 9.628916 | 9.956625 | 9.672391 | 10.327709 | 10.043375 | 10.37108140 | 41 |
| 12 | 9.629184 | 9.956566 | 9.672619 | 10.327381 | 10.043434 | 10.37081439 | 42 |
| 13 | 9.629453 | 9.956506 | 9.672947 | 10.327053 | 10.043494 | 10.37054747 | 43 |
| 14 | 9.629721 | 9.956447 | 9.673274 | 10.326725 | 10.043552 | 10.37027946 | 44 |
| 15 | 9.629987 | 9.956378 | 9.673602 | 10.326390 | 10.043613 | 10.37001145 | 45 |
| 16 | 9.630251 | 9.956327 | 9.673929 | 10.326071 | 10.043673 | 10.36974344 | 46 |
| 17 | 9.630524 | 9.956268 | 9.674257 | 10.325743 | 10.043732 | 10.36947643 | 47 |
| 18 | 9.630790 | 9.956280 | 9.674584 | 10.325416 | 10.043792 | 10.36920842 | 48 |
| 19 | 9.631399 | 9.956148 | 9.674910 | 10.325089 | 10.043852 | 10.36984141 | 49 |
| 20 | 9.631320 | 9.956089 | 9.675237 | 10.324764 | 10.043911 | 10.36867440 | 50 |
| 21 | 9.631590 | 9.956029 | 9.675564 | 10.324436 | 10.043971 | 10.36840739 | 51 |
| 22 | 9.631859 | 9.955969 | 9.675890 | 10.324110 | 10.044031 | 10.36814138 | 52 |
| 23 | 9.632125 | 9.955909 | 9.676216 | 10.323783 | 10.044091 | 10.36787437 | 53 |
| 24 | 9.632392 | 9.955849 | 9.676543 | 10.322457 | 10.044158 | 10.36760836 | 54 |
| 25 | 9.632658 | 9.955789 | 9.676869 | 10.321314 | 10.044218 | 10.36734235 | 55 |
| 26 | 9.632923 | 9.955729 | 9.677194 | 10.322806 | 10.044271 | 10.36707734 | 56 |
| 27 | 9.633189 | 9.955669 | 9.677520 | 10.322480 | 10.044331 | 10.36681133 | 57 |
| 28 | 9.633454 | 9.955609 | 9.677846 | 10.322154 | 10.044391 | 10.36654632 | 58 |
| 29 | 9.633719 | 9.955548 | 9.678171 | 10.321829 | 10.044451 | 10.36628131 | 59 |
| 30 | 9.633984 | 9.155488 | 9.678496 | 10.321504 | 10.044512 | 10.36601630 | 60 |
|    |          | Sine.    |          | Tang.     |           | Secant.     |    |

64 Degrees.

## Tangents and Secants.

25 Degrees.

| Min. | Sine.    | Tang.    |          | Secant.   |           | Min.      |
|------|----------|----------|----------|-----------|-----------|-----------|
| 30   | 9.633984 | 9.955488 | 9.678496 | 10.321504 | 10.044512 | 10.366016 |
| 31   | 9.634249 | 9.955428 | 9.678821 | 10.321179 | 10.044572 | 10.365751 |
| 32   | 9.634514 | 9.955368 | 9.679146 | 10.320854 | 10.044632 | 10.365486 |
| 33   | 9.634778 | 9.955307 | 9.679471 | 10.320529 | 10.044693 | 10.365222 |
| 34   | 9.635042 | 9.955247 | 9.679795 | 10.320205 | 10.044753 | 10.364958 |
| 35   | 9.635306 | 9.955186 | 9.680120 | 10.319880 | 10.044814 | 10.364694 |
| 36   | 9.635570 | 9.955126 | 9.680444 | 10.319556 | 10.044874 | 10.364430 |
| 37   | 9.635833 | 9.955065 | 9.680768 | 10.319232 | 10.044935 | 10.364166 |
| 38   | 9.636097 | 9.955005 | 9.681092 | 10.318908 | 10.044995 | 10.363903 |
| 39   | 9.636360 | 9.955944 | 9.681416 | 10.318584 | 10.045056 | 10.363640 |
| 40   | 9.636623 | 9.955883 | 9.681740 | 10.318260 | 10.045117 | 10.363377 |
| 41   | 9.636886 | 9.954823 | 9.682063 | 10.317937 | 10.045177 | 10.363114 |
| 42   | 9.637148 | 9.954762 | 9.682386 | 10.317613 | 10.045238 | 10.352852 |
| 43   | 9.637411 | 9.954701 | 9.682710 | 10.317290 | 10.045299 | 10.362589 |
| 44   | 9.637673 | 9.954640 | 9.683033 | 10.316967 | 10.045359 | 10.362327 |
| 45   | 9.637935 | 9.954579 | 9.683356 | 10.316644 | 10.045421 | 10.362065 |
| 46   | 9.638197 | 9.954518 | 9.683678 | 10.316321 | 10.045482 | 10.361803 |
| 47   | 9.638458 | 9.954457 | 9.684001 | 10.315999 | 10.045543 | 10.361541 |
| 48   | 9.638720 | 9.954396 | 9.684324 | 10.315676 | 10.045604 | 10.361280 |
| 49   | 9.638981 | 9.954335 | 9.684646 | 10.315354 | 10.045665 | 10.361019 |
| 50   | 9.639242 | 9.954274 | 9.684968 | 10.315032 | 10.045726 | 10.360758 |
| 51   | 9.639503 | 9.954213 | 9.685290 | 10.314710 | 10.045787 | 10.360497 |
| 52   | 9.639764 | 9.954152 | 9.685612 | 10.314388 | 10.045848 | 10.360235 |
| 53   | 9.640024 | 9.954090 | 9.685934 | 10.314066 | 10.045910 | 10.359976 |
| 54   | 9.640284 | 9.954029 | 9.686255 | 10.313745 | 10.045971 | 10.359716 |
| 55   | 9.640544 | 9.953968 | 9.686577 | 10.313423 | 10.046032 | 10.359455 |
| 56   | 9.640804 | 9.953906 | 9.686898 | 10.313102 | 10.046094 | 10.359195 |
| 57   | 9.641064 | 9.953845 | 9.687219 | 10.312781 | 10.046155 | 10.358936 |
| 58   | 9.641323 | 9.953783 | 9.687540 | 10.312460 | 10.046217 | 10.358676 |
| 59   | 9.641583 | 9.953721 | 9.687861 | 10.312139 | 10.046278 | 10.358417 |
| 60   | 9.641842 | 9.953660 | 9.688182 | 10.311818 | 10.046340 | 10.358158 |
|      | Sine.    |          | Tang.    |           | Secant.   | Min.      |

64 Degrees.

A Table of Artificial Sines,

26 Degrees.

| Min. | Sine.    | Tang.    | Secant.  | Min.      |
|------|----------|----------|----------|-----------|
| 0    | 9.641842 | 9.953660 | 9.688182 | 10.046340 |
| 1    | 9.642101 | 9.953598 | 9.688502 | 10.046401 |
| 2    | 9.642360 | 9.953537 | 9.688823 | 10.046463 |
| 3    | 9.642618 | 9.953475 | 9.689143 | 10.046525 |
| 4    | 9.642876 | 9.953413 | 9.689463 | 10.046587 |
| 5    | 9.643135 | 9.953351 | 9.689783 | 10.046648 |
| 6    | 9.643393 | 9.953290 | 9.690103 | 10.046710 |
| 7    | 9.643650 | 9.953228 | 9.690423 | 10.046772 |
| 8    | 9.643908 | 9.953166 | 9.690742 | 10.046834 |
| 9    | 9.644165 | 9.953104 | 9.691062 | 10.046896 |
| 10   | 9.644423 | 9.953042 | 9.691381 | 10.046958 |
| 11   | 9.644680 | 9.952980 | 9.691700 | 10.047020 |
| 12   | 9.644936 | 9.952917 | 9.692019 | 10.047082 |
| 13   | 9.645193 | 9.952855 | 9.692338 | 10.047145 |
| 14   | 9.645450 | 9.952793 | 9.692656 | 10.047207 |
| 15   | 9.645700 | 9.952731 | 9.692975 | 10.047269 |
| 16   | 9.645962 | 9.952668 | 9.693293 | 10.047331 |
| 17   | 9.646218 | 9.952606 | 9.693612 | 10.047394 |
| 18   | 9.646473 | 9.952544 | 9.693930 | 10.047456 |
| 19   | 9.646729 | 9.952481 | 9.694248 | 10.047519 |
| 20   | 9.646984 | 9.952419 | 9.694566 | 10.047581 |
| 21   | 9.647239 | 9.952356 | 9.694883 | 10.047644 |
| 22   | 9.647494 | 9.952294 | 9.695201 | 10.047706 |
| 23   | 9.647749 | 9.952231 | 9.695518 | 10.047769 |
| 24   | 9.648004 | 9.952168 | 9.695835 | 10.047832 |
| 25   | 9.648258 | 9.952105 | 9.696153 | 10.047894 |
| 26   | 9.648582 | 9.952043 | 9.696470 | 10.047957 |
| 27   | 9.648766 | 9.951980 | 9.696786 | 10.048020 |
| 28   | 9.649020 | 9.951917 | 9.697103 | 10.048083 |
| 29   | 9.649274 | 9.951854 | 9.697420 | 10.048146 |
| 30   | 9.649527 | 9.951791 | 9.697736 | 10.048209 |
|      | Sine.    | Tang.    | Secant.  |           |

63 Degrees.

## Tangents and Secants.

26 Degrees.

| Min. | Sine.    | Tan.             | Secant.   | Min.        |
|------|----------|------------------|-----------|-------------|
| 20   | 9.649527 | 9.517919.647736  | 10.302264 | 10.35047330 |
| 31   | 9.649781 | 9.517289.698053  | 10.301947 | 10.35021929 |
| 32   | 9.650034 | 9.516659.698369  | 10.301631 | 10.34996628 |
| 33   | 9.650287 | 9.516029.698685  | 10.301315 | 10.34971327 |
| 34   | 9.650532 | 9.515399.699001  | 10.300999 | 10.34946026 |
| 35   | 9.650777 | 9.514769.699316  | 10.300684 | 10.34920825 |
| 36   | 9.651011 | 9.514129.699632  | 10.300368 | 10.34895624 |
| 37   | 9.651257 | 9.513499.699947  | 10.300053 | 10.34870323 |
| 38   | 9.651549 | 9.512869.700263  | 10.299737 | 10.34845122 |
| 39   | 9.51800  | 9.512229.700578  | 10.299422 | 10.34820021 |
| 40   | 9.652052 | 9.511599.700893  | 10.299107 | 10.34794820 |
| 41   | 9.652303 | 9.510969.701208  | 10.298792 | 10.34769619 |
| 42   | 9.652555 | 9.510329.701523  | 10.298477 | 10.34744518 |
| 43   | 9.652803 | 9.509689.701837  | 10.298163 | 10.34719417 |
| 44   | 9.653057 | 9.509059.702152  | 10.297848 | 10.34694316 |
| 45   | 9.653307 | 9.508419.702466  | 10.297534 | 10.34669215 |
| 46   | 9.653558 | 9.507779.702780  | 10.297219 | 10.34644214 |
| 47   | 9.653808 | 9.507149.703095  | 10.296905 | 10.34619213 |
| 48   | 9.654059 | 9.506509.703409  | 10.296591 | 10.34594112 |
| 49   | 9.654309 | 9.505869.703722  | 10.296277 | 10.34569111 |
| 50   | 9.654558 | 9.505229.704036  | 10.295964 | 10.34544210 |
| 51   | 9.654808 | 9.504589.704350  | 10.295650 | 10.3451929  |
| 52   | 9.655057 | 9.503949.704663  | 10.295337 | 10.3449428  |
| 53   | 9.655307 | 9.503309.704976  | 10.295023 | 10.3446937  |
| 54   | 9.655556 | 9.502669.705290  | 10.294710 | 10.3444446  |
| 55   | 9.655805 | 9.502029.705603  | 10.294397 | 10.3441955  |
| 56   | 9.656054 | 9.501389.705916  | 10.294084 | 10.3439464  |
| 57   | 9.656302 | 9.500749.706228  | 10.293772 | 10.3436983  |
| 58   | 9.656550 | 9.500009.706541  | 10.293459 | 10.3434492  |
| 59   | 9.656799 | 9.4999459.706853 | 10.293146 | 10.3432011  |
| 60   | 9.657042 | 9.4998819.707166 | 10.292834 | 10.3420520  |
|      | Sine.    |                  | Tang.     | Secant.     |

63 Degrees.

A Table of Artificial Sines,

27 Degrees.

| Min. | Sine.    | Tang.    | Secant.  |           |           |
|------|----------|----------|----------|-----------|-----------|
| 0    | 9.657047 | 9.949881 | 9.707166 | 10.292834 | 10.050119 |
| 1    | 9.657295 | 9.949816 | 9.707478 | 10.292522 | 10.050183 |
| 2    | 9.657542 | 9.949752 | 9.707790 | 10.292210 | 10.050248 |
| 3    | 9.657790 | 9.949688 | 9.708102 | 10.291898 | 10.050312 |
| 4    | 9.658037 | 9.949623 | 9.708414 | 10.291586 | 10.050377 |
| 5    | 9.658284 | 9.949558 | 9.708726 | 10.291274 | 10.050441 |
| 6    | 9.658531 | 9.949494 | 9.709037 | 10.290963 | 10.050506 |
| 7    | 9.658778 | 9.949429 | 9.709349 | 10.290651 | 10.050571 |
| 8    | 9.659025 | 9.949364 | 9.709660 | 10.290340 | 10.050635 |
| 9    | 9.659271 | 9.949300 | 9.709971 | 10.290029 | 10.050700 |
| 10   | 9.659517 | 9.949235 | 9.710282 | 10.289718 | 10.050765 |
| 11   | 9.659763 | 9.949170 | 9.710593 | 10.289407 | 10.050830 |
| 12   | 9.660009 | 9.949105 | 9.710904 | 10.289096 | 10.050895 |
| 13   | 9.660255 | 9.949040 | 9.711215 | 10.288785 | 10.050960 |
| 14   | 9.660500 | 9.948975 | 9.711525 | 10.288475 | 10.051025 |
| 15   | 9.660746 | 9.948910 | 9.711836 | 10.288164 | 10.051090 |
| 16   | 9.660991 | 9.948845 | 9.712146 | 10.287854 | 10.051155 |
| 17   | 9.661236 | 9.948780 | 9.712456 | 10.287544 | 10.051220 |
| 18   | 9.661481 | 9.948715 | 9.712766 | 10.287234 | 10.051285 |
| 19   | 9.661726 | 9.948649 | 9.713076 | 10.286924 | 10.051350 |
| 20   | 9.661970 | 9.948584 | 9.713386 | 10.286614 | 10.051416 |
| 21   | 9.662214 | 9.948519 | 9.713696 | 10.286304 | 10.051481 |
| 22   | 9.662459 | 9.948453 | 9.714005 | 10.285995 | 10.051546 |
| 23   | 9.662703 | 9.948388 | 9.714314 | 10.285685 | 10.051612 |
| 24   | 9.662946 | 9.948323 | 9.714624 | 10.285376 | 10.051677 |
| 25   | 9.663190 | 9.948257 | 9.714933 | 10.285067 | 10.051743 |
| 26   | 9.663433 | 9.948192 | 9.715242 | 10.284758 | 10.051808 |
| 27   | 9.663677 | 9.948126 | 9.715551 | 10.284449 | 10.051874 |
| 28   | 9.663920 | 9.948060 | 9.715859 | 10.284140 | 10.051940 |
| 29   | 9.664163 | 9.947995 | 9.716168 | 10.283832 | 10.052005 |
| 30   | 9.664406 | 9.947929 | 9.716477 | 10.283523 | 10.052078 |
|      | Sine.    |          | Tang.    |           | Secant.   |
|      |          |          |          |           | Min.      |

62 Degrees.

## Tangents and Secants.

27 Degrees.

|    | Sine.    | Tang.    | Secant.  |           |
|----|----------|----------|----------|-----------|
| 30 | 9.664406 | 9.947929 | 9.716477 | 10.052071 |
| 31 | 9.664648 | 9.947863 | 9.716785 | 10.052135 |
| 32 | 9.664891 | 9.947797 | 9.717093 | 10.052207 |
| 33 | 9.665133 | 9.947731 | 9.717401 | 10.052269 |
| 34 | 9.665375 | 9.947665 | 9.717709 | 10.052334 |
| 35 | 9.665617 | 9.947599 | 9.718017 | 10.052400 |
| 36 | 9.665859 | 9.947533 | 9.718325 | 10.052466 |
| 37 | 9.666100 | 9.947467 | 9.718633 | 10.052533 |
| 38 | 9.666341 | 9.947401 | 9.718940 | 10.052599 |
| 39 | 9.666583 | 9.947335 | 9.719248 | 10.052665 |
| 40 | 9.666824 | 9.947269 | 9.719555 | 10.052731 |
| 41 | 9.667065 | 9.947203 | 9.719862 | 10.052797 |
| 42 | 9.667305 | 9.947136 | 9.720169 | 10.052864 |
| 43 | 9.667546 | 9.947070 | 9.720476 | 10.052930 |
| 44 | 9.667786 | 9.947004 | 9.720783 | 10.052996 |
| 45 | 9.668026 | 9.946937 | 9.721089 | 10.053063 |
| 46 | 9.668266 | 9.946871 | 9.721396 | 10.053129 |
| 47 | 9.668506 | 9.946804 | 9.721702 | 10.053196 |
| 48 | 9.668746 | 9.946738 | 9.722008 | 10.053262 |
| 49 | 9.668986 | 9.946671 | 9.722315 | 10.053329 |
| 50 | 9.669225 | 9.946604 | 9.722621 | 10.053396 |
| 51 | 9.669464 | 9.946538 | 9.722927 | 10.053462 |
| 52 | 9.669703 | 9.946471 | 9.723232 | 10.053529 |
| 53 | 9.669942 | 9.946404 | 9.723538 | 10.053596 |
| 54 | 9.670181 | 9.946337 | 9.723844 | 10.053663 |
| 55 | 9.670419 | 9.946270 | 9.724149 | 10.053730 |
| 56 | 9.670658 | 9.946203 | 9.724454 | 10.053797 |
| 57 | 9.670896 | 9.946136 | 9.724759 | 10.053864 |
| 58 | 9.671134 | 9.946069 | 9.725065 | 10.053931 |
| 59 | 9.671372 | 9.946002 | 9.725369 | 10.053998 |
| 60 | 9.671609 | 9.945935 | 9.725674 | 10.054065 |
|    | Sine.    | Tang.    | Secant.  |           |

62 Degrees:

A Table of Artificial Sines,

28 Degrees.

| Min. | Sine.    | Tang.    | Secant.  | Min.      |           |
|------|----------|----------|----------|-----------|-----------|
| 0    | 9.671609 | 9.945935 | 9.725674 | 10.054065 | 10.328391 |
| 1    | 9.671847 | 9.945868 | 9.725970 | 10.054021 | 10.328153 |
| 2    | 9.672084 | 9.945800 | 9.726284 | 10.054116 | 10.327916 |
| 3    | 9.672321 | 9.945733 | 9.726589 | 10.054122 | 10.327679 |
| 4    | 9.672558 | 9.945656 | 9.72689  | 10.054177 | 10.327442 |
| 5    | 9.672795 | 9.945598 | 9.727197 | 10.054401 | 10.327205 |
| 6    | 9.673032 | 9.945531 | 9.727501 | 10.054469 | 10.326968 |
| 7    | 9.673268 | 9.945464 | 9.727805 | 10.054536 | 10.326732 |
| 8    | 9.673505 | 9.945396 | 9.728109 | 10.054604 | 10.326495 |
| 9    | 9.673741 | 9.945328 | 9.728412 | 10.054671 | 10.326259 |
| 10   | 9.673977 | 9.945261 | 9.728716 | 10.054739 | 10.326023 |
| 11   | 9.674213 | 9.945193 | 9.729020 | 10.054807 | 10.325787 |
| 12   | 9.674448 | 9.945125 | 9.729323 | 10.054874 | 10.325551 |
| 13   | 9.674684 | 9.945058 | 9.729626 | 10.054942 | 10.325316 |
| 14   | 9.674910 | 9.944990 | 9.729920 | 10.055010 | 10.325081 |
| 15   | 9.675155 | 9.944922 | 9.730232 | 10.055078 | 10.324845 |
| 16   | 9.675390 | 9.944854 | 9.730535 | 10.055145 | 10.324610 |
| 17   | 9.675524 | 9.944786 | 9.730838 | 10.055212 | 10.324376 |
| 18   | 9.675859 | 9.944718 | 9.731141 | 10.055286 | 10.324141 |
| 19   | 9.676094 | 9.944650 | 9.731444 | 10.055350 | 10.323906 |
| 20   | 9.676328 | 9.944582 | 9.731746 | 10.055418 | 10.323672 |
| 21   | 9.676562 | 9.944514 | 9.732048 | 10.055486 | 10.323438 |
| 22   | 9.676796 | 9.944446 | 9.732351 | 10.055554 | 10.323204 |
| 23   | 9.677030 | 9.944377 | 9.732653 | 10.055622 | 10.322970 |
| 24   | 9.677264 | 9.944200 | 9.732955 | 10.055691 | 10.322736 |
| 25   | 9.677497 | 9.944241 | 9.733257 | 10.055759 | 10.322502 |
| 26   | 9.677731 | 9.944172 | 9.733558 | 10.055827 | 10.322269 |
| 27   | 9.677964 | 9.944104 | 9.733860 | 10.055896 | 10.322036 |
| 28   | 9.678197 | 9.944036 | 9.734162 | 10.055964 | 10.321803 |
| 29   | 9.678430 | 9.943967 | 9.734463 | 10.056033 | 10.321570 |
| 30   | 9.678663 | 9.943898 | 9.734764 | 10.056101 | 10.321337 |
|      | Sine.    | Tang.    | Secant.  | Min.      |           |

61 Degrees.

## Tangents and Secants.

28 Degrees.

|    | Sine.    | Tang.    |          | Secant.   |              |
|----|----------|----------|----------|-----------|--------------|
| 30 | 9.678652 | 9.943898 | 9.734764 | 10.265236 | 10.321337 30 |
| 31 | 9.678895 | 9.943830 | 9.735066 | 10.264934 | 10.321104 29 |
| 32 | 9.679128 | 9.943761 | 9.735367 | 10.264633 | 10.320872 28 |
| 33 | 9.679360 | 9.943692 | 9.735668 | 10.264332 | 10.320640 27 |
| 34 | 9.679592 | 9.943623 | 9.735968 | 10.264031 | 10.320408 26 |
| 35 | 9.679824 | 9.943554 | 9.736269 | 10.263731 | 10.320176 25 |
| 36 | 9.680056 | 9.943486 | 9.736570 | 10.263430 | 10.319944 24 |
| 37 | 9.680287 | 9.943417 | 9.736870 | 10.263129 | 10.319712 23 |
| 38 | 9.680519 | 9.943348 | 9.737171 | 10.262829 | 10.319481 22 |
| 39 | 9.680750 | 9.943279 | 9.737471 | 10.262529 | 10.319250 21 |
| 40 | 9.680981 | 9.943210 | 9.737771 | 10.262229 | 10.319018 20 |
| 41 | 9.681213 | 9.943141 | 9.738071 | 10.261929 | 10.318787 19 |
| 42 | 9.681443 | 9.943072 | 9.738371 | 10.261629 | 10.318557 18 |
| 43 | 9.681674 | 9.943003 | 9.738671 | 10.261329 | 10.318326 17 |
| 44 | 9.681904 | 9.942933 | 9.738971 | 10.261029 | 10.318095 16 |
| 45 | 9.682134 | 9.942864 | 9.739271 | 10.260729 | 10.317865 15 |
| 46 | 9.682365 | 9.942794 | 9.739570 | 10.260430 | 10.317635 14 |
| 47 | 9.682595 | 9.942725 | 9.739870 | 10.260130 | 10.317405 13 |
| 48 | 9.682825 | 9.942656 | 9.740169 | 10.259831 | 10.317175 12 |
| 49 | 9.683054 | 9.942586 | 9.740468 | 10.259532 | 10.316945 11 |
| 50 | 9.683284 | 9.942517 | 9.740767 | 10.259233 | 10.316716 10 |
| 51 | 9.683513 | 9.942447 | 9.741066 | 10.258934 | 10.316486 9  |
| 52 | 9.683743 | 9.942377 | 9.741365 | 10.258635 | 10.316257 8  |
| 53 | 9.683972 | 9.942308 | 9.741664 | 10.258336 | 10.316028 7  |
| 54 | 9.684201 | 9.942238 | 9.741962 | 10.258038 | 10.315799 6  |
| 55 | 9.684429 | 9.942168 | 9.742261 | 10.257739 | 10.315570 5  |
| 56 | 9.684658 | 9.942099 | 9.742559 | 10.257441 | 10.315342 4  |
| 57 | 9.684886 | 9.942029 | 9.742858 | 10.257142 | 10.315113 3  |
| 58 | 9.685115 | 9.941959 | 9.743156 | 10.256844 | 10.314185 2  |
| 59 | 9.685343 | 9.941889 | 9.743454 | 10.256546 | 10.314657 1  |
| 60 | 9.685571 | 9.941819 | 9.743752 | 10.256248 | 10.314420 0  |

Sine.

Tang.

Secant.

61 Degrees.

A Table of Artificial Sines,

29 Degrees.

| Min. | Sine.    |          | Tang.    |           | Secant.   | Min.      |
|------|----------|----------|----------|-----------|-----------|-----------|
| 0    | 9.685571 | 9.941819 | 9.743752 | 10.256248 | 10.058181 | 10.314429 |
| 1    | 9.685799 | 9.941749 | 9.744050 | 10.255950 | 10.058252 | 10.314201 |
| 2    | 9.686027 | 9.941679 | 9.744348 | 10.255652 | 10.058321 | 10.313973 |
| 3    | 9.686254 | 9.941609 | 9.744645 | 10.255355 | 10.058391 | 10.313746 |
| 4    | 9.686482 | 9.941539 | 9.744943 | 10.255057 | 10.058461 | 10.313518 |
| 5    | 9.686709 | 9.941468 | 9.745240 | 10.254760 | 10.058531 | 10.313291 |
| 6    | 9.686936 | 9.941398 | 9.745538 | 10.254462 | 10.058602 | 10.313064 |
| 7    | 9.687163 | 9.941328 | 9.745835 | 10.254165 | 10.058672 | 10.312837 |
| 8    | 9.687389 | 9.941257 | 9.746132 | 10.253868 | 10.058742 | 10.312610 |
| 9    | 9.687616 | 9.941187 | 9.746429 | 10.253571 | 10.058813 | 10.312384 |
| 10   | 9.687842 | 9.941117 | 9.746726 | 10.253274 | 10.058883 | 10.312157 |
| 11   | 9.688069 | 9.941046 | 9.747023 | 10.252977 | 10.058954 | 10.311931 |
| 12   | 9.688295 | 9.940975 | 9.747319 | 10.252681 | 10.059024 | 10.311705 |
| 13   | 9.688521 | 9.940905 | 9.747616 | 10.252384 | 10.059095 | 10.311479 |
| 14   | 9.688747 | 9.940834 | 9.747912 | 10.252087 | 10.059166 | 10.311253 |
| 15   | 9.688792 | 9.940763 | 9.748209 | 10.251791 | 10.059237 | 10.311028 |
| 16   | 9.689198 | 9.940693 | 9.748505 | 10.251495 | 10.059307 | 10.310802 |
| 17   | 9.689423 | 9.940622 | 9.748801 | 10.251199 | 10.059378 | 10.310577 |
| 18   | 9.689548 | 9.940551 | 9.749097 | 10.250993 | 10.059449 | 10.310352 |
| 19   | 9.689873 | 9.940480 | 9.749393 | 10.250607 | 10.059520 | 10.310127 |
| 20   | 9.690098 | 9.940409 | 9.749689 | 10.250311 | 10.059591 | 10.309902 |
| 21   | 9.690323 | 9.940338 | 9.749985 | 10.250015 | 10.059662 | 10.309677 |
| 22   | 9.690548 | 9.940267 | 9.750281 | 10.249719 | 10.059733 | 10.309452 |
| 23   | 9.690772 | 9.940196 | 9.750576 | 10.249424 | 10.059804 | 10.309228 |
| 24   | 9.690996 | 9.940125 | 9.750872 | 10.249128 | 10.059875 | 10.309004 |
| 25   | 9.691220 | 9.940053 | 9.751167 | 10.248833 | 10.059946 | 10.308779 |
| 26   | 9.691444 | 9.939982 | 9.751462 | 10.248538 | 10.060018 | 10.308555 |
| 27   | 9.691668 | 9.939911 | 9.751757 | 10.248243 | 10.060089 | 10.308332 |
| 28   | 9.691892 | 9.939840 | 9.752052 | 10.247948 | 10.060160 | 10.308108 |
| 29   | 9.692115 | 9.939768 | 9.752347 | 10.247652 | 10.060232 | 10.307884 |
| 30   | 9.692339 | 9.939697 | 9.752642 | 10.247358 | 10.060303 | 10.307661 |
|      | Sine.    |          | Tang.    |           | Secant.   | Min.      |

60 Degrees.

# Tangents and Secants.

29 Degrees.

|    | Sine.    | Tang.    | Secant.  |           |
|----|----------|----------|----------|-----------|
| 30 | 9.692339 | 9.939697 | 9.752642 | 10.060303 |
| 31 | 9.692562 | 9.939625 | 9.752937 | 10.060375 |
| 32 | 9.692785 | 9.939554 | 9.753231 | 10.060446 |
| 33 | 9.693009 | 9.939482 | 9.753526 | 10.060518 |
| 34 | 9.693231 | 9.939410 | 9.753820 | 10.060589 |
| 35 | 9.693453 | 9.939339 | 9.754115 | 10.060661 |
| 36 | 9.693676 | 9.939267 | 9.754409 | 10.060733 |
| 37 | 9.693898 | 9.939190 | 9.754703 | 10.060805 |
| 38 | 9.694120 | 9.939123 | 9.754997 | 10.060877 |
| 39 | 9.694342 | 9.939051 | 9.755291 | 10.060948 |
| 40 | 9.694564 | 9.938980 | 9.755585 | 10.061020 |
| 41 | 9.694786 | 9.938908 | 9.755878 | 10.061092 |
| 42 | 9.695007 | 9.938836 | 9.756172 | 10.061164 |
| 43 | 9.695229 | 9.938703 | 9.756465 | 10.061236 |
| 44 | 9.695450 | 9.938691 | 9.756759 | 10.061309 |
| 45 | 9.695671 | 9.938619 | 9.757052 | 10.061381 |
| 46 | 9.695892 | 9.938547 | 9.757346 | 10.061453 |
| 47 | 9.696113 | 9.938475 | 9.757638 | 10.061525 |
| 48 | 9.696334 | 9.938402 | 9.757931 | 10.061598 |
| 49 | 9.696554 | 9.938330 | 9.758224 | 10.061670 |
| 50 | 9.696774 | 9.938258 | 9.758517 | 10.061742 |
| 51 | 9.696995 | 9.938185 | 9.758810 | 10.061815 |
| 52 | 9.697215 | 9.938113 | 9.759012 | 10.061887 |
| 53 | 9.697435 | 9.938040 | 9.759395 | 10.061960 |
| 54 | 9.697654 | 9.937967 | 9.759687 | 10.062033 |
| 55 | 9.697874 | 9.937895 | 9.759979 | 10.062105 |
| 56 | 9.698094 | 9.937822 | 9.760272 | 10.062178 |
| 57 | 9.698313 | 9.937749 | 9.760564 | 10.062251 |
| 58 | 9.698532 | 9.937676 | 9.760856 | 10.062324 |
| 59 | 9.698751 | 9.937603 | 9.761148 | 10.062396 |
| 60 | 9.698970 | 9.937531 | 9.761439 | 10.062469 |
|    | Sine.    | Tang.    | Secant.  | Min.      |

60 Degrees.

A Table of Artificial Sines,

30 Degrees.

| Min. | Sin e    | Tang.    | Secant.  | Min.      |
|------|----------|----------|----------|-----------|
| 0    | 9.698970 | 9.937531 | 9.761439 | 10.062489 |
| 1    | 9.699189 | 9.937458 | 9.761731 | 10.062543 |
| 2    | 9.699407 | 9.937385 | 9.762023 | 10.062615 |
| 3    | 9.699626 | 9.937312 | 9.762314 | 10.062688 |
| 4    | 9.699844 | 9.937238 | 9.762606 | 10.062761 |
| 5    | 9.700062 | 9.937165 | 9.762897 | 10.062835 |
| 6    | 9.700280 | 9.937092 | 9.763188 | 10.062908 |
| 7    | 9.700498 | 9.937019 | 9.763479 | 10.062981 |
| 8    | 9.700716 | 9.936946 | 9.763770 | 10.063054 |
| 9    | 9.700933 | 9.936872 | 9.764061 | 10.063128 |
| 10   | 9.701151 | 9.936799 | 9.764352 | 10.063201 |
| 11   | 9.701368 | 9.936725 | 9.764643 | 10.063274 |
| 12   | 9.701585 | 9.936552 | 9.764933 | 10.063348 |
| 13   | 9.701802 | 9.936578 | 9.765224 | 10.063422 |
| 14   | 9.702019 | 9.936505 | 9.765514 | 10.063495 |
| 15   | 9.702236 | 9.936431 | 9.765805 | 10.063569 |
| 16   | 9.702452 | 9.936357 | 9.766095 | 10.063643 |
| 17   | 9.702669 | 9.936284 | 9.766385 | 10.063716 |
| 18   | 9.702885 | 9.936210 | 9.766675 | 10.063790 |
| 19   | 9.703118 | 9.935136 | 9.766965 | 10.063864 |
| 20   | 9.703317 | 9.936062 | 9.767255 | 10.063938 |
| 21   | 9.703533 | 9.935988 | 9.767545 | 10.064012 |
| 22   | 9.703749 | 9.935914 | 9.767834 | 10.064086 |
| 23   | 9.703964 | 9.935840 | 9.768124 | 10.064160 |
| 24   | 9.704170 | 9.935766 | 9.768413 | 10.064234 |
| 25   | 9.704395 | 9.935692 | 9.768703 | 10.064308 |
| 36   | 9.704610 | 9.935618 | 9.768992 | 10.064382 |
| 27   | 9.704825 | 9.935543 | 9.769281 | 10.064456 |
| 28   | 9.705040 | 9.935469 | 9.769570 | 10.064531 |
| 29   | 9.705254 | 9.935395 | 9.769860 | 10.064605 |
| 30   | 9.705469 | 9.935320 | 9.770148 | 10.064680 |
|      | Sinc.    |          | Tang.    | Secant.   |

59 Degrees.

# Tangents and Secants.

30 Degrees.

| N. | Sine.    | Tang.    | Secant.  |           |
|----|----------|----------|----------|-----------|
| 30 | 9.705469 | 9.935320 | 9.770146 | 10.229851 |
| 31 | 9.705829 | 9.935249 | 9.770437 | 10.229563 |
| 32 | 9.705897 | 9.935178 | 9.770720 | 10.229274 |
| 33 | 9.706112 | 9.935097 | 9.771015 | 10.228985 |
| 34 | 9.706320 | 9.935022 | 9.771303 | 10.228697 |
| 35 | 9.706533 | 9.934948 | 9.771592 | 10.228408 |
| 36 | 9.706753 | 9.934873 | 9.771886 | 10.228120 |
| 37 | 9.706967 | 9.934796 | 9.772166 | 10.227832 |
| 38 | 9.707180 | 9.934709 | 9.772457 | 10.227543 |
| 39 | 9.707393 | 9.934641 | 9.772743 | 10.227255 |
| 40 | 9.707600 | 9.934574 | 9.773033 | 10.226967 |
| 41 | 9.707818 | 9.934495 | 9.773321 | 10.226679 |
| 42 | 9.708032 | 9.934424 | 9.773608 | 10.226392 |
| 43 | 9.708245 | 9.934349 | 9.773891 | 10.226104 |
| 44 | 9.708457 | 9.934274 | 9.774184 | 10.225816 |
| 45 | 9.708660 | 9.934195 | 9.774471 | 10.225529 |
| 46 | 9.708872 | 9.934128 | 9.774759 | 10.225241 |
| 47 | 9.709094 | 9.934046 | 9.775040 | 10.224954 |
| 48 | 9.709306 | 9.933973 | 9.775333 | 10.224667 |
| 49 | 9.709518 | 9.933898 | 9.775621 | 10.224379 |
| 50 | 9.709730 | 9.933822 | 9.775908 | 10.224092 |
| 51 | 9.709941 | 9.933747 | 9.776195 | 10.223805 |
| 52 | 9.710152 | 9.933671 | 9.776482 | 10.223518 |
| 53 | 9.710364 | 9.933596 | 9.776768 | 10.223231 |
| 54 | 9.710575 | 9.933520 | 9.777055 | 10.222945 |
| 55 | 9.710786 | 9.933444 | 9.777342 | 10.222658 |
| 56 | 9.710997 | 9.933369 | 9.777628 | 10.222372 |
| 57 | 9.711208 | 9.933293 | 9.777915 | 10.222085 |
| 58 | 9.711419 | 9.933217 | 9.778201 | 10.221799 |
| 59 | 9.711629 | 9.933144 | 9.778487 | 10.221512 |
| 60 | 9.711839 | 9.933060 | 9.778774 | 10.221226 |
|    | Sine.    | Tang.    | Secant.  | Min.      |

59 Degrees.

A Table of Artificial Sines,

31 Degrees.

| Min. | Sine.    | Tang.    | Secant.  | Min.      |    |
|------|----------|----------|----------|-----------|----|
| 0    | 9.711839 | 9.933066 | 9.778774 | 10.221226 | 60 |
| 1    | 9.712049 | 9.932990 | 9.779060 | 10.220940 | 30 |
| 2    | 9.712260 | 9.932914 | 9.779346 | 10.220654 | 19 |
| 3    | 9.712469 | 9.932838 | 9.779632 | 10.220368 | 32 |
| 4    | 9.712679 | 9.932762 | 9.779918 | 10.220082 | 33 |
| 5    | 9.712889 | 9.932685 | 9.780203 | 10.219797 | 34 |
| 6    | 9.713098 | 9.932609 | 9.780489 | 10.219511 | 35 |
| 7    | 9.713308 | 9.932533 | 9.780775 | 10.219225 | 36 |
| 8    | 9.713517 | 9.932457 | 9.781060 | 10.218940 | 37 |
| 9    | 9.713726 | 9.932380 | 9.781346 | 10.218654 | 38 |
| 10   | 9.713935 | 9.932304 | 9.781631 | 10.218369 | 39 |
| 11   | 9.714144 | 9.932228 | 9.781916 | 10.218084 | 40 |
| 12   | 9.714352 | 9.932151 | 9.782201 | 10.217799 | 41 |
| 13   | 9.714561 | 9.932075 | 9.782486 | 10.217514 | 42 |
| 14   | 9.714769 | 9.931998 | 9.782771 | 10.217229 | 43 |
| 15   | 9.714978 | 9.931921 | 9.783050 | 10.216945 | 44 |
| 16   | 9.715186 | 9.931845 | 9.783341 | 10.216660 | 45 |
| 17   | 9.715394 | 9.931768 | 9.783626 | 10.216374 | 46 |
| 18   | 9.715601 | 9.931691 | 9.783910 | 10.216090 | 47 |
| 19   | 9.715809 | 9.931614 | 9.784194 | 10.215805 | 48 |
| 20   | 9.716017 | 9.931537 | 9.784479 | 10.215521 | 49 |
| 21   | 9.716224 | 9.931460 | 9.784794 | 10.215236 | 50 |
| 22   | 9.716432 | 9.931383 | 9.785048 | 10.214952 | 51 |
| 23   | 9.716630 | 9.931306 | 9.785332 | 10.214668 | 52 |
| 24   | 9.716846 | 9.931229 | 9.785616 | 10.214384 | 53 |
| 25   | 9.717053 | 9.931152 | 9.785900 | 10.214100 | 54 |
| 26   | 9.717259 | 9.931075 | 9.786184 | 10.213816 | 55 |
| 27   | 9.717466 | 9.930998 | 9.786468 | 10.213532 | 56 |
| 28   | 9.717672 | 9.930920 | 9.786752 | 10.213248 | 57 |
| 29   | 9.717879 | 9.930843 | 9.787036 | 10.212964 | 58 |
| 30   | 9.718085 | 9.930766 | 9.787319 | 10.212681 | 59 |
|      | Sine.    | Tang.    | Secant.  | Min.      |    |

58 Degrees.

## Tangents and Secants.

31 Degrees.

| Min. | Sine.    |          | Tang.    |           | Secant.   |           | Min. |
|------|----------|----------|----------|-----------|-----------|-----------|------|
| 30   | 9.718085 | 9.930766 | 9.787319 | 10.212681 | 10.069234 | 10.181915 | 30   |
| 31   | 9.718291 | 9.930688 | 9.787603 | 10.212397 | 10.069312 | 10.181709 | 29   |
| 32   | 9.718497 | 9.930611 | 9.787886 | 10.212114 | 10.069389 | 10.181503 | 28   |
| 33   | 9.718703 | 9.930533 | 9.788170 | 10.211830 | 10.069467 | 10.181297 | 27   |
| 34   | 9.718909 | 9.930456 | 9.788453 | 10.211547 | 10.069544 | 10.181091 | 26   |
| 35   | 9.719114 | 9.930378 | 9.788736 | 10.211264 | 10.069622 | 10.180886 | 25   |
| 36   | 9.719320 | 9.930300 | 9.789019 | 10.210981 | 10.069700 | 10.180680 | 24   |
| 37   | 9.719525 | 9.930223 | 9.789302 | 10.210698 | 10.069777 | 10.180475 | 23   |
| 38   | 9.719730 | 9.930145 | 9.789585 | 10.210415 | 10.069855 | 10.180270 | 22   |
| 39   | 9.719935 | 9.930067 | 9.789868 | 10.210132 | 10.069933 | 10.180065 | 21   |
| 40   | 9.720140 | 9.929989 | 9.790151 | 10.209849 | 10.070011 | 10.279860 | 20   |
| 41   | 9.720345 | 9.929911 | 9.790433 | 10.209566 | 10.070089 | 10.279655 | 19   |
| 42   | 9.720549 | 9.929833 | 9.790716 | 10.209284 | 10.070167 | 10.279451 | 18   |
| 43   | 9.720754 | 9.929755 | 9.790999 | 10.209001 | 10.070245 | 10.279246 | 17   |
| 44   | 9.720958 | 9.929677 | 9.791281 | 10.208719 | 10.070323 | 10.279042 | 16   |
| 45   | 9.721162 | 9.929599 | 9.791563 | 10.208436 | 10.070401 | 10.278838 | 15   |
| 46   | 9.721366 | 9.929521 | 9.791846 | 10.208154 | 10.070479 | 10.278634 | 14   |
| 47   | 9.721570 | 9.929442 | 9.792128 | 10.207872 | 10.070558 | 10.278430 | 13   |
| 48   | 9.721774 | 9.929364 | 9.792410 | 10.207590 | 10.070636 | 10.278226 | 12   |
| 49   | 9.721978 | 9.929286 | 9.792692 | 10.207308 | 10.070714 | 10.278022 | 11   |
| 50   | 9.722181 | 9.929207 | 9.792974 | 10.207026 | 10.070793 | 10.277819 | 10   |
| 51   | 9.722385 | 9.929129 | 9.793256 | 10.206744 | 10.070871 | 10.277615 | 9    |
| 52   | 9.722588 | 9.929050 | 9.793538 | 10.206462 | 10.070950 | 10.277412 | 8    |
| 53   | 9.722791 | 9.928972 | 9.793819 | 10.206180 | 10.071028 | 10.277209 | 7    |
| 54   | 9.722994 | 9.928893 | 9.794101 | 10.205899 | 10.071107 | 10.277006 | 6    |
| 55   | 9.723197 | 9.928814 | 9.794383 | 10.205617 | 10.071185 | 10.276805 | 5    |
| 56   | 9.723400 | 9.928736 | 9.794664 | 10.205336 | 10.071264 | 10.276603 | 4    |
| 57   | 9.723603 | 9.928657 | 9.794945 | 10.205054 | 10.071243 | 10.276397 | 3    |
| 58   | 9.723805 | 9.928578 | 9.795227 | 10.204773 | 10.071422 | 10.276195 | 2    |
| 59   | 9.724007 | 9.928499 | 9.795508 | 10.204492 | 10.071501 | 10.275991 | 1    |
| 60   | 9.724210 | 9.928420 | 9.795789 | 10.204211 | 10.071579 | 10.275790 | 0    |

Sine.

Tang.

Secant.

58 Degrees.

A Table of Artificial Sines,

32 Degrees.

| Min. | Sine.    | Tang.    |          | Secant.   |           |
|------|----------|----------|----------|-----------|-----------|
| 0    | 9.724210 | 9.928420 | 9.795289 | 10.204211 | 10.071579 |
| 1    | 9.724412 | 9.928341 | 9.796070 | 10.203930 | 10.071638 |
| 2    | 9.724614 | 9.928262 | 9.796251 | 10.203649 | 10.071737 |
| 3    | 9.724816 | 9.928183 | 9.796632 | 10.203368 | 10.071817 |
| 4    | 9.725017 | 9.928104 | 9.796913 | 10.203087 | 10.071896 |
| 5    | 9.725219 | 9.928025 | 9.797194 | 10.202806 | 10.071975 |
| 6    | 9.725420 | 9.927946 | 9.797474 | 10.202525 | 10.072054 |
| 7    | 9.725622 | 9.927867 | 9.797755 | 10.202245 | 10.072133 |
| 8    | 9.725823 | 9.927787 | 9.798036 | 10.201964 | 10.072213 |
| 9    | 9.726024 | 9.927704 | 9.798216 | 10.201684 | 10.072292 |
| 10   | 9.726225 | 9.927628 | 9.798596 | 10.201404 | 10.072371 |
| 11   | 9.726426 | 9.927549 | 9.798877 | 10.201123 | 10.072451 |
| 12   | 9.726626 | 9.927469 | 9.799157 | 10.200842 | 10.072530 |
| 13   | 9.726827 | 9.927390 | 9.799437 | 10.200562 | 10.072610 |
| 14   | 9.727027 | 9.927310 | 9.799717 | 10.200282 | 10.072690 |
| 15   | 9.727228 | 9.927231 | 9.799997 | 10.200003 | 10.072769 |
| 16   | 9.727428 | 9.927151 | 9.800277 | 10.199723 | 10.072849 |
| 17   | 9.727628 | 9.927071 | 9.800557 | 10.199443 | 10.072929 |
| 18   | 9.727828 | 9.926991 | 9.800836 | 10.199163 | 10.073009 |
| 19   | 9.728027 | 9.926911 | 9.801116 | 10.198884 | 10.073080 |
| 20   | 9.728227 | 9.926831 | 9.801396 | 10.198604 | 10.073169 |
| 21   | 9.728427 | 9.926751 | 9.801675 | 10.198325 | 10.073249 |
| 22   | 9.728626 | 9.926671 | 9.801954 | 10.198045 | 10.073329 |
| 23   | 9.728825 | 9.926591 | 9.802234 | 10.197766 | 10.073409 |
| 24   | 9.729024 | 9.926511 | 9.802513 | 10.197487 | 10.073489 |
| 25   | 9.729223 | 9.926431 | 9.80279  | 10.197207 | 10.073569 |
| 26   | 9.729422 | 9.926351 | 9.803072 | 10.196928 | 10.073649 |
| 27   | 9.729621 | 9.926270 | 9.803351 | 10.196649 | 10.073730 |
| 28   | 9.729820 | 9.926190 | 9.803630 | 10.196370 | 10.073810 |
| 29   | 9.730018 | 9.926110 | 9.803908 | 10.196091 | 10.073891 |
| 30   | 9.730216 | 9.926029 | 9.804187 | 10.195812 | 10.072974 |
|      | Sine.    |          | Tang.    |           | Secant.   |

# Tangents and Secants.

32 Degrees.

|    | Sine.    | Tang.    | Secant.  |             |
|----|----------|----------|----------|-------------|
| 30 | 9.730216 | 9.926029 | 9.804187 | 10.26978330 |
| 31 | 9.730415 | 9.925949 | 9.804466 | 10.26958529 |
| 32 | 9.730613 | 9.925868 | 9.804745 | 10.26938728 |
| 33 | 9.730811 | 9.925787 | 9.805023 | 10.26918927 |
| 34 | 9.731009 | 9.925707 | 9.805302 | 10.26899126 |
| 35 | 9.731206 | 9.925626 | 9.805580 | 10.26879425 |
| 36 | 9.731404 | 9.925545 | 9.805855 | 10.26859624 |
| 37 | 9.731601 | 9.925465 | 9.806137 | 10.26839823 |
| 38 | 9.731799 | 9.925384 | 9.806415 | 10.26820122 |
| 39 | 9.731996 | 9.925303 | 9.806693 | 10.26800421 |
| 40 | 9.732193 | 9.925222 | 9.806971 | 10.26780720 |
| 41 | 9.732390 | 9.925141 | 9.807245 | 10.26760119 |
| 42 | 9.732587 | 9.925051 | 9.807527 | 10.26741318 |
| 43 | 9.732784 | 9.924979 | 9.807805 | 10.26721617 |
| 44 | 9.732980 | 9.924897 | 9.808083 | 10.26702016 |
| 45 | 9.733177 | 9.924816 | 9.808361 | 10.26682315 |
| 46 | 9.733373 | 9.924735 | 9.808638 | 10.26662714 |
| 47 | 9.733569 | 9.924653 | 9.808916 | 10.26643113 |
| 48 | 9.733765 | 9.924572 | 9.809193 | 10.26623512 |
| 49 | 9.733961 | 9.924491 | 9.809471 | 10.26603911 |
| 50 | 9.734157 | 9.924409 | 9.809748 | 10.26584310 |
| 51 | 9.734353 | 9.924328 | 9.810025 | 10.26564709 |
| 52 | 9.734548 | 9.924246 | 9.810302 | 10.26545108 |
| 53 | 9.734744 | 9.924164 | 9.810580 | 10.26525607 |
| 54 | 9.734939 | 9.924083 | 9.810857 | 10.26506106 |
| 55 | 9.735134 | 9.924011 | 9.811134 | 10.26486505 |
| 56 | 9.735330 | 9.923919 | 9.811410 | 10.26467004 |
| 57 | 9.735525 | 9.923837 | 9.811687 | 10.26447503 |
| 58 | 9.735719 | 9.923755 | 9.811964 | 10.26428002 |
| 59 | 9.735914 | 9.923673 | 9.812241 | 10.26408601 |
| 60 | 9.736109 | 9.923591 | 9.812517 | 10.26389100 |
|    | Sine.    | Tang.    | Secant.  | Min.        |

57 Degrees.

Y

A Table of Artificial Sines,

33 Degrees.

| M.<br>in.  | Sine.    | Tang.    | Secant.   |           |
|------------|----------|----------|-----------|-----------|
| 09.736103  | 9.923591 | 9.812517 | 10.187483 | 10.263891 |
| 19.736303  | 9.923509 | 9.812794 | 10.187206 | 10.263697 |
| 29.736498  | 9.923427 | 9.813070 | 10.186930 | 10.263502 |
| 39.736692  | 9.923345 | 9.813347 | 10.186653 | 10.263308 |
| 49.736886  | 9.923263 | 9.813623 | 10.186377 | 10.263114 |
| 59.737080  | 9.923180 | 9.813899 | 10.186101 | 10.262920 |
| 69.737274  | 9.923098 | 9.814175 | 10.185824 | 10.262726 |
| 79.737467  | 9.923016 | 9.814452 | 10.185548 | 10.262532 |
| 89.737661  | 9.922933 | 9.814728 | 10.185272 | 10.262339 |
| 99.737855  | 9.922851 | 9.815004 | 10.184996 | 10.262145 |
| 109.738048 | 9.922768 | 9.815279 | 10.184720 | 10.261952 |
| 119.738241 | 9.922686 | 9.815555 | 10.184445 | 10.261759 |
| 129.738434 | 9.922603 | 9.815831 | 10.184169 | 10.261566 |
| 139.738627 | 9.922520 | 9.816107 | 10.183893 | 10.261373 |
| 149.738820 | 9.922438 | 9.816382 | 10.182618 | 10.261180 |
| 159.739013 | 9.922355 | 9.816658 | 10.183342 | 10.260987 |
| 169.739205 | 9.922272 | 9.816933 | 10.183066 | 10.260794 |
| 179.739398 | 9.922189 | 9.817209 | 10.182791 | 10.260602 |
| 189.739590 | 9.922106 | 9.817484 | 10.182516 | 10.260410 |
| 199.739783 | 9.922023 | 9.817759 | 10.182240 | 10.260217 |
| 209.739975 | 9.921940 | 9.818035 | 10.181965 | 10.260025 |
| 219.740167 | 9.921857 | 9.818310 | 10.181690 | 10.259833 |
| 229.740359 | 9.921774 | 9.818585 | 10.181415 | 10.259641 |
| 239.740550 | 9.921691 | 9.818860 | 10.181140 | 10.259449 |
| 249.740742 | 9.921607 | 9.819131 | 10.180865 | 10.259258 |
| 259.740934 | 9.921524 | 9.819410 | 10.180590 | 10.259066 |
| 269.741125 | 9.921441 | 9.819684 | 10.180316 | 10.258875 |
| 279.741316 | 9.921357 | 9.819959 | 10.180041 | 10.258684 |
| 289.741507 | 9.921274 | 9.820234 | 10.179766 | 10.258492 |
| 299.741699 | 9.921190 | 9.820508 | 10.179492 | 10.258301 |
| 309.741889 | 9.921107 | 9.820783 | 10.179217 | 10.258110 |
|            | Sine.    | Tang.    | Secant.   |           |

36 Degrees.

# Tangents and Secants.

33 Degrees.

|    | Sine.    | Tang.    | Secant.  |           |
|----|----------|----------|----------|-----------|
| 30 | 9.741889 | 9.921107 | 9.820783 | 10.179217 |
| 31 | 9.742080 | 9.921023 | 9.821057 | 10.178943 |
| 32 | 9.742271 | 9.920939 | 9.821332 | 10.178668 |
| 33 | 9.742462 | 9.920855 | 9.821606 | 10.178394 |
| 34 | 9.742652 | 9.920772 | 9.821880 | 10.178120 |
| 35 | 9.742842 | 9.920688 | 9.822154 | 10.177845 |
| 36 | 9.743032 | 9.920604 | 9.822429 | 10.177571 |
| 37 | 9.743222 | 9.920520 | 9.822703 | 10.177297 |
| 38 | 9.743412 | 9.920436 | 9.822977 | 10.177023 |
| 39 | 9.743602 | 9.920352 | 9.823250 | 10.176749 |
| 40 | 9.743792 | 9.920268 | 9.823524 | 10.176476 |
| 41 | 9.743982 | 9.920184 | 9.823798 | 10.176202 |
| 42 | 9.744171 | 9.920099 | 9.824072 | 10.175928 |
| 43 | 9.744361 | 9.920015 | 9.824345 | 10.175654 |
| 44 | 9.744550 | 9.919931 | 9.824619 | 10.175381 |
| 45 | 9.744739 | 9.919846 | 9.824893 | 10.175107 |
| 46 | 9.744928 | 9.919762 | 9.825166 | 10.174834 |
| 47 | 9.745117 | 9.919677 | 9.825439 | 10.174561 |
| 48 | 9.745306 | 9.919593 | 9.825713 | 10.174287 |
| 49 | 9.745494 | 9.919508 | 9.825986 | 10.174014 |
| 50 | 9.745683 | 9.919424 | 9.826259 | 10.173741 |
| 51 | 9.745871 | 9.919339 | 9.826532 | 10.173468 |
| 52 | 9.746059 | 9.919254 | 9.826805 | 10.173195 |
| 53 | 9.746248 | 9.919169 | 9.827078 | 10.172922 |
| 54 | 9.746436 | 9.919084 | 9.827351 | 10.172649 |
| 55 | 9.746624 | 9.919000 | 9.827624 | 10.172370 |
| 56 | 9.746811 | 9.918915 | 9.827897 | 10.172103 |
| 57 | 9.746999 | 9.918830 | 9.828170 | 10.171830 |
| 58 | 9.747187 | 9.918744 | 9.828442 | 10.171558 |
| 59 | 9.747374 | 9.918659 | 9.828715 | 10.171285 |
| 60 | 9.747562 | 9.918574 | 9.828987 | 10.171013 |
|    | Sine.    | Tang.    | Secant.  |           |

56 Degrees.

A Table of Artificial Sines,

34 Degrees.

| M  | Sine.    | Tang.    |          | Secant.   |           |
|----|----------|----------|----------|-----------|-----------|
| 0  | 9.747562 | 9.918574 | 9.828987 | 10.171013 | 10.252438 |
| 1  | 9.747749 | 9.918489 | 9.829260 | 10.170740 | 10.252251 |
| 2  | 9.747936 | 9.918404 | 9.829532 | 10.170468 | 10.252064 |
| 3  | 9.748123 | 9.918318 | 9.829805 | 10.170199 | 10.251877 |
| 4  | 9.748310 | 9.918233 | 9.830077 | 10.179923 | 10.251690 |
| 5  | 9.748497 | 9.918147 | 9.830349 | 10.169651 | 10.251503 |
| 6  | 9.748683 | 9.918062 | 9.830621 | 10.169379 | 10.251317 |
| 7  | 9.748870 | 9.917976 | 9.830893 | 10.169107 | 10.251130 |
| 8  | 9.749056 | 9.917891 | 9.831165 | 10.168835 | 10.250944 |
| 9  | 9.749242 | 9.917805 | 9.831437 | 10.168563 | 10.250757 |
| 10 | 9.749425 | 9.917719 | 9.831709 | 10.168291 | 10.250571 |
| 11 | 9.749615 | 9.917634 | 9.831981 | 10.168019 | 10.250385 |
| 12 | 9.749801 | 9.917548 | 9.832253 | 10.167747 | 10.250199 |
| 13 | 9.749987 | 9.917462 | 9.832525 | 10.167475 | 10.250013 |
| 14 | 9.750172 | 9.917376 | 9.832796 | 10.167204 | 10.249828 |
| 15 | 9.750358 | 9.917290 | 9.833068 | 10.166932 | 10.249642 |
| 16 | 9.750543 | 9.917204 | 9.833339 | 10.166651 | 10.249457 |
| 17 | 9.750729 | 9.917118 | 9.833611 | 10.166389 | 10.249271 |
| 18 | 9.750914 | 9.917032 | 9.833882 | 10.166118 | 10.249064 |
| 19 | 9.751099 | 9.916945 | 9.834154 | 10.165846 | 10.248901 |
| 20 | 9.751284 | 9.916859 | 9.834425 | 10.165575 | 10.248716 |
| 21 | 9.751465 | 9.916773 | 9.834696 | 10.165304 | 10.248531 |
| 22 | 9.751654 | 9.916687 | 9.834967 | 10.165033 | 10.248349 |
| 23 | 9.751838 | 9.916600 | 9.835238 | 10.164762 | 10.248161 |
| 24 | 9.752023 | 9.916514 | 9.835509 | 10.164491 | 10.247977 |
| 25 | 9.752207 | 9.916427 | 9.835780 | 10.164220 | 10.247792 |
| 26 | 9.752392 | 9.916341 | 9.836051 | 10.163949 | 10.247608 |
| 27 | 9.752576 | 9.916254 | 9.836322 | 10.163678 | 10.247424 |
| 28 | 9.752760 | 9.916167 | 9.836593 | 10.163407 | 10.247240 |
| 29 | 9.752944 | 9.916080 | 9.836864 | 10.163136 | 10.247056 |
| 30 | 9.753128 | 9.915994 | 9.837134 | 10.162866 | 10.246872 |
|    | Sine.    |          | Tang.    |           | Secant.   |

55 Degrees.

# Tangents and Secants.

34 Degrees.

| Min. | Sine     | Tang.    |          | Secant.   |           | Min.        |
|------|----------|----------|----------|-----------|-----------|-------------|
| 30   | 9.753128 | 9.915994 | 9.837134 | 10.162866 | 10.084006 | 10.2467230  |
| 31   | 9.753312 | 9.915907 | 9.837405 | 10.162595 | 10.084093 | 10.24668829 |
| 32   | 9.753495 | 9.915820 | 9.837675 | 10.162324 | 10.084180 | 10.24650528 |
| 33   | 9.753679 | 9.915733 | 9.837946 | 10.162054 | 10.084267 | 10.24632127 |
| 34   | 9.753862 | 9.915646 | 9.838216 | 10.161784 | 10.084354 | 10.24613826 |
| 35   | 9.754046 | 9.915559 | 9.838487 | 10.161513 | 10.084441 | 10.24595425 |
| 36   | 9.754229 | 9.915472 | 9.838757 | 10.161243 | 10.084528 | 10.24577124 |
| 37   | 9.754412 | 9.915385 | 9.839027 | 10.160973 | 10.084615 | 10.24558823 |
| 38   | 9.754595 | 9.915297 | 9.839297 | 10.160702 | 10.084703 | 10.24540522 |
| 39   | 9.754778 | 9.915210 | 9.839568 | 10.160432 | 10.084790 | 10.24522221 |
| 40   | 9.754960 | 9.915123 | 9.839838 | 10.160162 | 10.084877 | 10.24504020 |
| 41   | 9.755143 | 9.915035 | 9.840108 | 10.159892 | 10.084965 | 10.24485719 |
| 42   | 9.755326 | 9.914948 | 9.840378 | 10.159622 | 10.085052 | 10.24467418 |
| 43   | 9.755508 | 9.914860 | 9.840647 | 10.159352 | 10.085140 | 10.24449217 |
| 44   | 9.755690 | 9.914773 | 9.840917 | 10.159083 | 10.085227 | 10.24431016 |
| 45   | 9.755872 | 9.914685 | 9.841187 | 10.158813 | 10.085315 | 10.24412815 |
| 46   | 9.756054 | 9.914598 | 9.841457 | 10.158543 | 10.085402 | 10.24394014 |
| 47   | 9.756236 | 9.914510 | 9.841726 | 10.158273 | 10.085490 | 10.24376413 |
| 48   | 9.756418 | 9.914422 | 9.841996 | 10.158004 | 10.085578 | 10.24358212 |
| 49   | 9.756600 | 9.914334 | 9.842266 | 10.157734 | 10.085666 | 10.24340011 |
| 50   | 9.756781 | 9.914246 | 9.842535 | 10.157465 | 10.085754 | 10.24321810 |
| 51   | 9.756963 | 9.914158 | 9.842805 | 10.157195 | 10.085842 | 10.2430379  |
| 52   | 9.757144 | 9.914070 | 9.843074 | 10.156926 | 10.085930 | 10.2428568  |
| 53   | 9.757326 | 9.913982 | 9.843343 | 10.156657 | 10.086018 | 10.2426747  |
| 54   | 9.757507 | 9.913894 | 9.843612 | 10.156388 | 10.086106 | 10.2424936  |
| 55   | 9.757688 | 9.913806 | 9.843882 | 10.156118 | 10.086194 | 10.2423125  |
| 56   | 9.757869 | 9.913718 | 9.844151 | 10.155849 | 10.086282 | 10.2421314  |
| 57   | 9.758049 | 9.913630 | 9.844420 | 10.155580 | 10.086370 | 10.2419503  |
| 58   | 9.758230 | 9.913541 | 9.844689 | 10.155311 | 10.086459 | 10.2417702  |
| 59   | 9.758411 | 9.913453 | 9.844958 | 10.155042 | 10.086547 | 10.2415891  |
| 60   | 9.758591 | 9.913364 | 9.845227 | 10.154773 | 10.086635 | 10.2414090  |
|      | Sine.    | .        | .        | Tang..    | .         | Secant.     |

55 Degrees.

A Table of Artificial Sines,

35 Degrees.

| Min. | Sine.    | Tang.    |          | Secant.   |           | Min.        |
|------|----------|----------|----------|-----------|-----------|-------------|
| 0    | 9.758591 | 9.913364 | 9.845227 | 10.154773 | 10.086653 | 10.24140960 |
| 1    | 9.758772 | 9.913276 | 9.845496 | 10.154504 | 10.086724 | 10.24122859 |
| 2    | 9.758952 | 9.913187 | 9.845764 | 10.154236 | 10.086812 | 10.24104858 |
| 3    | 9.759132 | 9.913099 | 9.846033 | 10.153967 | 10.086901 | 10.24086857 |
| 4    | 9.759312 | 9.913010 | 9.846302 | 10.153698 | 10.086990 | 10.24068856 |
| 5    | 9.759492 | 9.912921 | 9.846570 | 10.153429 | 10.087078 | 10.24050855 |
| 6    | 9.759672 | 9.912833 | 9.846839 | 10.153161 | 10.087167 | 10.24032854 |
| 7    | 9.759851 | 9.912744 | 9.847107 | 10.152892 | 10.087256 | 10.24014853 |
| 8    | 9.760031 | 9.912655 | 9.847376 | 10.152624 | 10.087345 | 10.23996952 |
| 9    | 9.760211 | 9.912566 | 9.847644 | 10.152356 | 10.087434 | 10.23978951 |
| 10   | 9.760390 | 9.912477 | 9.847913 | 10.152087 | 10.087523 | 10.23961050 |
| 11   | 9.760569 | 9.912388 | 9.848181 | 10.151819 | 10.087612 | 10.23943149 |
| 12   | 9.760748 | 9.912299 | 9.848449 | 10.151551 | 10.087701 | 10.23925248 |
| 13   | 9.760927 | 9.912210 | 9.848717 | 10.151283 | 10.087790 | 10.23907347 |
| 14   | 9.761106 | 9.912121 | 9.848985 | 10.151014 | 10.087879 | 10.23889446 |
| 15   | 9.761285 | 9.912031 | 9.849254 | 10.150746 | 10.087968 | 10.23871545 |
| 16   | 9.761464 | 9.911942 | 9.849522 | 10.150478 | 10.088058 | 10.23813644 |
| 17   | 9.761642 | 9.911853 | 9.849790 | 10.150210 | 10.088147 | 10.23835843 |
| 18   | 9.761821 | 9.911763 | 9.850057 | 10.149942 | 10.088237 | 10.23817942 |
| 19   | 9.761999 | 9.911674 | 9.850325 | 10.149675 | 10.088226 | 10.23800141 |
| 20   | 9.762177 | 9.911584 | 9.850593 | 10.149407 | 10.088416 | 10.23782240 |
| 21   | 9.762356 | 9.911495 | 9.850861 | 10.149139 | 10.088505 | 10.23764439 |
| 22   | 9.752534 | 9.911405 | 9.851128 | 10.148871 | 10.088595 | 10.23746638 |
| 23   | 9.762712 | 9.911315 | 9.851396 | 10.148604 | 10.088684 | 10.23728837 |
| 24   | 9.762880 | 9.911226 | 9.851664 | 10.148336 | 10.088774 | 10.23711136 |
| 25   | 9.753067 | 9.911136 | 9.851931 | 10.148069 | 10.088864 | 10.23693335 |
| 26   | 9.753245 | 9.911046 | 9.852199 | 10.147801 | 10.088954 | 10.23675534 |
| 27   | 9.753422 | 9.910956 | 9.852466 | 10.147534 | 10.089044 | 10.23657833 |
| 28   | 9.763600 | 9.910866 | 9.852733 | 10.147266 | 10.089134 | 10.23640032 |
| 29   | 9.763777 | 9.910776 | 9.853001 | 10.146999 | 10.089224 | 10.23622331 |
| 30   | 9.763951 | 9.910686 | 9.853268 | 10.146732 | 10.089314 | 10.22604630 |
|      | Sine.    |          | Tang.    |           | Secant.   | Min.        |

54 Degrees

# Tangents and Secants.

35 Degrees.

| Min. | Sine.    | Tang.    | Secant.  |           |
|------|----------|----------|----------|-----------|
| 30   | 9.763954 | 9.910686 | 9.853268 | 10.146732 |
| 31   | 9.764131 | 9.910596 | 9.853535 | 10.146465 |
| 32   | 9.764308 | 9.910506 | 9.853802 | 10.146198 |
| 33   | 9.764485 | 9.910415 | 9.854069 | 10.145931 |
| 34   | 9.764662 | 9.910325 | 9.854336 | 10.145664 |
| 35   | 9.764838 | 9.910235 | 9.854603 | 10.145397 |
| 36   | 9.765015 | 9.910144 | 9.854870 | 10.145130 |
| 37   | 9.765191 | 9.910054 | 9.855137 | 10.144863 |
| 38   | 9.765367 | 9.909963 | 9.855404 | 10.144596 |
| 39   | 9.765544 | 9.909873 | 9.855671 | 10.144329 |
| 40   | 9.765720 | 9.909782 | 9.855938 | 10.144062 |
| 41   | 9.765896 | 9.909691 | 9.856204 | 10.143796 |
| 42   | 9.766071 | 9.909601 | 9.856471 | 10.143529 |
| 43   | 9.766247 | 9.909510 | 9.856737 | 10.143263 |
| 44   | 9.766423 | 9.909419 | 9.857004 | 10.142996 |
| 45   | 9.766598 | 9.909328 | 9.857270 | 10.142730 |
| 46   | 9.766774 | 9.909237 | 9.857537 | 10.142463 |
| 47   | 9.766949 | 9.909146 | 9.857803 | 10.142197 |
| 48   | 9.767124 | 9.909055 | 9.858069 | 10.141931 |
| 49   | 9.767290 | 9.908964 | 9.858336 | 10.141664 |
| 50   | 9.767475 | 9.908873 | 9.858602 | 10.141398 |
| 51   | 9.767649 | 9.908781 | 9.858868 | 10.141132 |
| 52   | 9.767824 | 9.908691 | 9.859134 | 10.140866 |
| 53   | 9.767999 | 9.908599 | 9.859400 | 10.140600 |
| 54   | 9.768173 | 9.908507 | 9.859666 | 10.140334 |
| 55   | 9.768348 | 9.908416 | 9.859932 | 10.140068 |
| 56   | 9.768522 | 9.908324 | 9.860198 | 10.139802 |
| 57   | 9.768697 | 9.908233 | 9.860464 | 10.139536 |
| 58   | 9.768871 | 9.908141 | 9.860730 | 10.139270 |
| 59   | 9.769045 | 9.908049 | 9.860995 | 10.139005 |
| 60   | 9.769219 | 9.907958 | 9.861261 | 10.138739 |
|      | Sine.    | Tang.    | Secant.  | Min.      |

54 Degrees.

A Table of Artificial Sines,

.36 Degrees.

| Min. | Sine.    | Tang.    |          | Secant.   | Min.        |
|------|----------|----------|----------|-----------|-------------|
| 0    | 9.769215 | 9.907958 | 9.861261 | 10.138739 | 10.23078760 |
| 1    | 9.769392 | 9.907866 | 9.861527 | 10.138473 | 10.23060759 |
| 2    | 9.769566 | 9.907774 | 9.861792 | 10.138268 | 10.23043458 |
| 3    | 9.769740 | 9.907682 | 9.862058 | 10.137942 | 10.23026057 |
| 4    | 9.769913 | 9.907590 | 9.862323 | 10.137677 | 10.23008756 |
| 5    | 9.770087 | 9.907498 | 9.862589 | 10.137411 | 10.22991355 |
| 6    | 9.770260 | 9.907406 | 9.862854 | 10.137146 | 10.22974054 |
| 7    | 9.770433 | 9.907314 | 9.863119 | 10.136880 | 10.22956753 |
| 8    | 9.770606 | 9.907221 | 9.863385 | 10.136619 | 10.22939452 |
| 9    | 9.770779 | 9.907129 | 9.863550 | 10.136350 | 10.22922051 |
| 10   | 9.770952 | 9.907037 | 9.863915 | 10.136085 | 10.22904850 |
| 11   | 9.771125 | 9.906945 | 9.864180 | 10.135820 | 10.22887449 |
| 12   | 9.771298 | 9.906852 | 9.864445 | 10.135559 | 10.22870248 |
| 13   | 9.771470 | 9.906760 | 9.864710 | 10.135289 | 10.22853047 |
| 14   | 9.771642 | 9.906667 | 9.864975 | 10.135024 | 10.22835746 |
| 15   | 9.771815 | 9.906574 | 9.865240 | 10.134760 | 10.22818445 |
| 16   | 9.771987 | 9.906482 | 9.865505 | 10.134495 | 10.22801244 |
| 17   | 9.772159 | 9.906389 | 9.865770 | 10.134230 | 10.22784443 |
| 18   | 9.772331 | 9.906296 | 9.866035 | 10.133965 | 10.22766942 |
| 19   | 9.772503 | 9.906204 | 9.866300 | 10.133700 | 10.22749741 |
| 20   | 9.772675 | 9.906111 | 9.866564 | 10.133436 | 10.22732540 |
| 21   | 9.772847 | 9.906018 | 9.866829 | 10.133171 | 10.22715339 |
| 22   | 9.773018 | 9.905925 | 9.867094 | 10.132906 | 10.22698138 |
| 23   | 9.773190 | 9.905832 | 9.867358 | 10.132642 | 10.22681037 |
| 24   | 9.773361 | 9.905739 | 9.867623 | 10.132377 | 10.22663936 |
| 25   | 9.773533 | 9.905645 | 9.867887 | 10.132112 | 10.22646735 |
| 26   | 9.773704 | 9.905552 | 9.868152 | 10.131848 | 10.22629634 |
| 27   | 9.773875 | 9.905459 | 9.868416 | 10.131584 | 10.22612533 |
| 28   | 9.774046 | 9.905366 | 9.868680 | 10.131320 | 10.22595432 |
| 29   | 9.774217 | 9.905272 | 9.868945 | 10.131055 | 10.22578331 |
| 30   | 9.774388 | 9.905179 | 9.869209 | 10.130791 | 10.22561230 |
|      |          | Sine.    |          | Tang.     | Secant.     |

.33 Degrees.

## Tangents and Secants.

36 Degrees.

| N. | Sine.    | Tang.    |          | Secant.   |           |
|----|----------|----------|----------|-----------|-----------|
| 30 | 9.774388 | 9.905179 | 9.869209 | 10.130791 | 10.225612 |
| 31 | 9.774558 | 9.905085 | 9.869473 | 10.130527 | 10.225442 |
| 32 | 9.774729 | 9.904992 | 9.869737 | 10.130263 | 10.225271 |
| 33 | 9.774899 | 9.904898 | 9.870004 | 10.129999 | 10.225102 |
| 34 | 9.775070 | 9.904804 | 9.870265 | 10.129735 | 10.224930 |
| 35 | 9.775240 | 9.904711 | 9.870529 | 10.129470 | 10.224760 |
| 36 | 9.775410 | 9.904617 | 9.870793 | 10.129207 | 10.224590 |
| 37 | 9.775580 | 9.904528 | 9.871057 | 10.128943 | 10.224420 |
| 38 | 9.775750 | 9.904429 | 9.871321 | 10.128679 | 10.224250 |
| 39 | 9.775920 | 9.904335 | 9.871585 | 10.128415 | 10.224080 |
| 40 | 9.776090 | 9.904241 | 9.871849 | 10.128151 | 10.223910 |
| 41 | 9.776259 | 9.904147 | 9.872112 | 10.127888 | 10.223741 |
| 42 | 9.776429 | 9.904053 | 9.872376 | 10.127624 | 10.223571 |
| 43 | 9.776598 | 9.903959 | 9.872640 | 10.127360 | 10.223402 |
| 44 | 9.776768 | 9.903864 | 9.872903 | 10.127097 | 10.223232 |
| 45 | 9.776937 | 9.903770 | 9.873167 | 10.126833 | 10.223063 |
| 46 | 9.777106 | 9.903676 | 9.873430 | 10.126570 | 10.222894 |
| 47 | 9.777275 | 9.903581 | 9.873694 | 10.126306 | 10.222725 |
| 48 | 9.777444 | 9.903487 | 9.873957 | 10.126042 | 10.222556 |
| 49 | 9.777613 | 9.903392 | 9.874220 | 10.125780 | 10.222387 |
| 50 | 9.777781 | 9.903298 | 9.874484 | 10.125516 | 10.222218 |
| 51 | 9.777950 | 9.903203 | 9.874747 | 10.125253 | 10.222050 |
| 52 | 9.778119 | 9.903108 | 9.875010 | 10.124990 | 10.221881 |
| 53 | 9.778287 | 9.903014 | 9.875273 | 10.124727 | 10.221713 |
| 54 | 9.778455 | 9.902929 | 9.875536 | 10.124463 | 10.221545 |
| 55 | 9.778623 | 9.902824 | 9.875800 | 10.124200 | 10.221376 |
| 56 | 9.778792 | 9.902729 | 9.876063 | 10.123937 | 10.221208 |
| 57 | 9.778960 | 9.902634 | 9.876326 | 10.123674 | 10.221040 |
| 58 | 9.779128 | 9.902539 | 9.876589 | 10.123411 | 10.220872 |
| 59 | 9.779295 | 9.902444 | 9.876851 | 10.123148 | 10.220705 |
| 60 | 9.779463 | 9.902349 | 9.877114 | 10.122886 | 10.220537 |
|    | Sine.    |          | Tang.    |           | Secant.   |

53 Degrees.

A Table of Artificial Sines,

37 Degrees.

| Min. | Sine.    | Tang.    |          | Secant.   |           | Min.      |
|------|----------|----------|----------|-----------|-----------|-----------|
| 0    | 9.779463 | 9.902349 | 9.877114 | 10.122886 | 10.097651 | 10.220537 |
| 1    | 9.775631 | 9.902253 | 9.877377 | 10.122623 | 10.097747 | 10.220369 |
| 2    | 9.779798 | 9.902158 | 9.877640 | 10.122360 | 10.097842 | 10.220202 |
| 3    | 9.779965 | 9.902063 | 9.877903 | 10.122097 | 10.097937 | 10.220034 |
| 4    | 9.780133 | 9.901967 | 9.878165 | 10.121835 | 10.098033 | 10.219867 |
| 5    | 9.780300 | 9.901872 | 9.878428 | 10.121572 | 10.098128 | 10.219700 |
| 6    | 9.780467 | 9.901776 | 9.878691 | 10.121309 | 10.098224 | 10.219533 |
| 7    | 9.780634 | 9.901681 | 9.878953 | 10.121047 | 10.098319 | 10.219366 |
| 8    | 9.780801 | 9.901585 | 9.879216 | 10.120784 | 10.098415 | 10.219199 |
| 9    | 9.780968 | 9.901489 | 9.879478 | 10.120522 | 10.098510 | 10.219032 |
| 10   | 9.781134 | 9.901394 | 9.879741 | 10.120259 | 10.098606 | 10.218866 |
| 11   | 9.781301 | 9.901298 | 9.880003 | 10.119997 | 10.098702 | 10.218699 |
| 12   | 9.781467 | 9.901202 | 9.880265 | 10.119735 | 10.098798 | 10.218532 |
| 13   | 9.781634 | 9.901106 | 9.880528 | 10.119472 | 10.098894 | 10.218366 |
| 14   | 9.781800 | 9.901010 | 9.880799 | 10.119210 | 10.098990 | 10.218190 |
| 15   | 9.781966 | 9.900914 | 9.881052 | 10.118948 | 10.099086 | 10.218034 |
| 16   | 9.782132 | 9.900818 | 9.881314 | 10.118685 | 10.099182 | 10.217868 |
| 17   | 9.782298 | 9.900721 | 9.881576 | 10.118423 | 10.099278 | 10.217702 |
| 18   | 9.782464 | 9.900626 | 9.881839 | 10.118161 | 10.099374 | 10.217536 |
| 19   | 9.782630 | 9.900529 | 9.882101 | 10.117899 | 10.099471 | 10.217270 |
| 20   | 9.782796 | 9.900433 | 9.882363 | 10.117637 | 10.099567 | 10.217204 |
| 21   | 9.782961 | 9.900337 | 9.882625 | 10.117375 | 10.099663 | 10.217039 |
| 22   | 9.783127 | 9.900240 | 9.882887 | 10.117113 | 10.099760 | 10.216873 |
| 23   | 9.783292 | 9.900144 | 9.883148 | 10.116852 | 10.099856 | 10.216708 |
| 24   | 9.783457 | 9.900047 | 9.883410 | 10.116500 | 10.099952 | 10.216423 |
| 25   | 9.783623 | 9.899951 | 9.883672 | 10.116328 | 10.100049 | 10.216377 |
| 26   | 9.783788 | 9.899854 | 9.883934 | 10.116066 | 10.100146 | 10.216212 |
| 27   | 9.783953 | 9.899757 | 9.884196 | 10.115804 | 10.100243 | 10.216047 |
| 28   | 9.784118 | 9.899660 | 9.884457 | 10.115543 | 10.100340 | 10.215882 |
| 29   | 9.784282 | 9.899564 | 9.884719 | 10.115281 | 10.100436 | 10.215718 |
| 30   | 9.784447 | 9.899467 | 9.884980 | 10.115020 | 10.100533 | 10.215553 |
|      | Sine.    |          |          | Tang.     |           | Min.      |

52 Degrees.

## Tangents and Secants.

37 Degrees.

| Min. | Sine.    | Tang.    |          | Secant.   |           |
|------|----------|----------|----------|-----------|-----------|
| 30   | 9.784447 | 9.899467 | 9.884980 | 10.115019 | 10.100533 |
| 31   | 9.784612 | 9.899370 | 9.885242 | 10.11475  | 10.100630 |
| 32   | 9.784776 | 9.899273 | 9.885503 | 10.114496 | 10.100727 |
| 33   | 9.784941 | 9.899176 | 9.885765 | 10.114235 | 10.100824 |
| 34   | 9.785105 | 9.899078 | 9.886026 | 10.113974 | 10.100922 |
| 35   | 9.785269 | 9.898981 | 9.886288 | 10.113712 | 10.101019 |
| 36   | 9.785433 | 9.898884 | 9.88654  | 10.113450 | 10.101116 |
| 37   | 9.785597 | 9.898787 | 9.886810 | 10.113189 | 10.101213 |
| 38   | 9.785761 | 9.898689 | 9.887072 | 10.112928 | 10.101311 |
| 39   | 9.785929 | 9.898582 | 9.887333 | 10.112667 | 10.101408 |
| 40   | 9.78608  | 9.898494 | 9.887594 | 10.112406 | 10.101506 |
| 41   | 9.786252 | 9.898397 | 9.887855 | 10.112145 | 10.101603 |
| 42   | 9.786416 | 9.898299 | 9.888116 | 10.111883 | 10.101701 |
| 43   | 9.786579 | 9.898201 | 9.888377 | 10.111622 | 10.101798 |
| 44   | 9.786742 | 9.898104 | 9.888639 | 10.111351 | 10.101896 |
| 45   | 9.786906 | 9.898006 | 9.888900 | 10.111100 | 10.101994 |
| 46   | 9.787069 | 9.897908 | 9.889160 | 10.110839 | 10.102092 |
| 47   | 9.787232 | 9.897810 | 9.889421 | 10.110579 | 10.102190 |
| 48   | 9.787395 | 9.897712 | 9.889682 | 10.110318 | 10.102288 |
| 49   | 9.787557 | 9.897614 | 9.889943 | 10.110057 | 10.102386 |
| 50   | 9.787720 | 9.897516 | 9.890204 | 10.109796 | 10.102484 |
| 51   | 9.787883 | 9.897418 | 9.890465 | 10.109535 | 10.102582 |
| 52   | 9.788045 | 9.897322 | 9.890725 | 10.109275 | 10.102680 |
| 53   | 9.788208 | 9.897222 | 9.890986 | 10.109014 | 10.102778 |
| 54   | 9.788370 | 9.897123 | 9.891247 | 10.108753 | 10.102877 |
| 55   | 9.788532 | 9.897025 | 9.891507 | 10.108493 | 10.102975 |
| 56   | 9.788694 | 9.896926 | 9.891768 | 10.108232 | 10.103073 |
| 57   | 9.788856 | 9.896828 | 9.892028 | 10.107971 | 10.103172 |
| 58   | 9.789018 | 9.896729 | 9.892289 | 10.107711 | 10.103271 |
| 59   | 9.789180 | 9.896631 | 9.892549 | 10.107451 | 10.103369 |
| 60   | 9.789342 | 9.896532 | 9.892810 | 10.107190 | 10.103468 |
|      | Sine.    |          | Tang.    |           | Secant.   |

52 Degrees.

A Table of Artificial Sines,

38 Degrees.

| M. | Sine.    |          | Tang.    |           | Secant.   |           |
|----|----------|----------|----------|-----------|-----------|-----------|
| 0  | 9.789342 | 9.896532 | 9.892810 | 10.107190 | 10.103468 | 10.210658 |
| 1  | 9.789504 | 9.896433 | 9.893070 | 10.106930 | 10.103567 | 10.210496 |
| 2  | 9.789665 | 9.896335 | 9.893331 | 10.106669 | 10.103665 | 10.210335 |
| 3  | 9.789827 | 9.896236 | 9.893591 | 10.106409 | 10.103764 | 10.210173 |
| 4  | 9.789988 | 9.896137 | 9.893851 | 10.106149 | 10.103863 | 10.210012 |
| 5  | 9.790149 | 9.896038 | 9.894111 | 10.105889 | 10.103962 | 10.209851 |
| 6  | 9.790310 | 9.895939 | 9.894371 | 10.105628 | 10.104061 | 10.209690 |
| 7  | 9.790471 | 9.895840 | 9.894632 | 10.105368 | 10.104160 | 10.209528 |
| 8  | 9.790633 | 9.895741 | 9.894892 | 10.105108 | 10.104259 | 10.209367 |
| 9  | 9.790792 | 9.895641 | 9.895152 | 10.104848 | 10.104359 | 10.209207 |
| 10 | 9.790954 | 9.895542 | 9.895412 | 10.104588 | 10.104458 | 10.209045 |
| 11 | 9.791115 | 9.895443 | 9.895672 | 10.104328 | 10.104557 | 10.208885 |
| 12 | 9.791275 | 9.895343 | 9.895932 | 10.104068 | 10.104656 | 10.208725 |
| 13 | 9.791436 | 9.895244 | 9.896192 | 10.103808 | 10.104756 | 10.208564 |
| 14 | 9.791596 | 9.895144 | 9.896452 | 10.103548 | 10.104855 | 10.208404 |
| 15 | 9.791757 | 9.895045 | 9.896712 | 10.103288 | 10.104955 | 10.208243 |
| 16 | 9.791917 | 9.894945 | 9.896971 | 10.103029 | 10.105055 | 10.208083 |
| 17 | 9.792077 | 9.894846 | 9.897231 | 10.102769 | 10.105154 | 10.207923 |
| 18 | 9.792237 | 9.894746 | 9.897491 | 10.102500 | 10.105254 | 10.207763 |
| 19 | 9.792397 | 9.894646 | 9.897751 | 10.102249 | 10.105354 | 10.207602 |
| 20 | 9.792557 | 9.894546 | 9.898010 | 10.101990 | 10.105454 | 10.207443 |
| 21 | 9.792716 | 9.894447 | 9.898270 | 10.101730 | 10.105554 | 10.207284 |
| 22 | 9.792876 | 9.894346 | 9.898530 | 10.101470 | 10.105654 | 10.207124 |
| 23 | 9.793035 | 9.894246 | 9.898785 | 10.101211 | 10.105754 | 10.206964 |
| 24 | 9.793195 | 9.894146 | 9.899049 | 10.100952 | 10.105854 | 10.206805 |
| 25 | 9.793354 | 9.894046 | 9.899308 | 10.100692 | 10.105954 | 10.206646 |
| 26 | 9.793513 | 9.893946 | 9.899558 | 10.100432 | 10.106054 | 10.206486 |
| 27 | 9.793673 | 9.893846 | 9.899827 | 10.100173 | 10.106154 | 10.206327 |
| 28 | 9.793832 | 9.893745 | 9.900086 | 10.099913 | 10.106255 | 10.206168 |
| 29 | 9.793991 | 9.893645 | 9.900346 | 10.099654 | 10.106355 | 10.206009 |
| 30 | 9.794150 | 9.893544 | 9.900605 | 10.099395 | 10.106456 | 10.205853 |
|    |          | Sine.    |          | Tang.     |           | Secant.   |

51 Degrees.

## Tangents and Secants.

*38 Degrees.*

| M  | Sine.    | Tang.    | Secant.  | Min.      |
|----|----------|----------|----------|-----------|
| 30 | 9.794130 | 9.893544 | 9.900605 | 10.106456 |
| 31 | 9.794308 | 9.893444 | 9.900864 | 10.106556 |
| 32 | 9.794467 | 9.893343 | 9.901124 | 10.106657 |
| 33 | 9.794626 | 9.893243 | 9.901383 | 10.106757 |
| 34 | 9.794784 | 9.893142 | 9.901642 | 10.106858 |
| 35 | 9.794942 | 9.893041 | 9.901901 | 10.106959 |
| 36 | 9.795101 | 9.892940 | 9.902160 | 10.107060 |
| 37 | 9.795259 | 9.892839 | 9.902419 | 10.107160 |
| 38 | 9.795417 | 9.892738 | 9.902679 | 10.107261 |
| 39 | 9.795575 | 9.892637 | 9.902938 | 10.107362 |
| 40 | 9.795733 | 9.892536 | 9.903197 | 10.107463 |
| 41 | 9.795891 | 9.892435 | 9.903455 | 10.107565 |
| 42 | 9.796049 | 9.892334 | 9.903714 | 10.107666 |
| 43 | 9.796206 | 9.892233 | 9.903973 | 10.107767 |
| 44 | 9.796364 | 9.892132 | 9.904232 | 10.107868 |
| 45 | 9.796521 | 9.892030 | 9.904491 | 10.107970 |
| 46 | 9.796679 | 9.891929 | 9.904750 | 10.108071 |
| 47 | 9.796836 | 9.891827 | 9.905000 | 10.108173 |
| 48 | 9.796993 | 9.891726 | 9.905267 | 10.108274 |
| 49 | 9.797150 | 9.891624 | 9.905526 | 10.108376 |
| 50 | 9.797307 | 9.891523 | 9.905784 | 10.108477 |
| 51 | 9.797464 | 9.891421 | 9.906043 | 10.108580 |
| 52 | 9.797621 | 9.891319 | 9.906302 | 10.108681 |
| 53 | 9.797777 | 9.891217 | 9.906560 | 10.108783 |
| 54 | 9.797950 | 9.891115 | 9.906819 | 10.108885 |
| 55 | 9.798091 | 9.891013 | 9.907077 | 10.108987 |
| 56 | 9.798247 | 9.890911 | 9.907336 | 10.109089 |
| 57 | 9.798403 | 9.890809 | 9.907594 | 10.109191 |
| 58 | 9.798560 | 9.890707 | 9.907852 | 10.109293 |
| 59 | 9.798719 | 9.890605 | 9.908111 | 10.109395 |
| 60 | 9.798872 | 9.890503 | 9.908369 | 10.109497 |
|    | Sine.    | Tang.    | Secant.  | Min.      |

*51 Degrees.*

A Table of Artificial Sines,

39 Degrees.

| Min. | Sine.    | Tang.    | Secant.  |           |
|------|----------|----------|----------|-----------|
| 0    | 9.798872 | 9.890503 | 9.908369 | 10.109497 |
| 1    | 9.799028 | 9.890400 | 9.908627 | 10.109600 |
| 2    | 9.799184 | 9.890298 | 9.908886 | 10.109702 |
| 3    | 9.799339 | 9.890195 | 9.909144 | 10.109805 |
| 4    | 9.799495 | 9.890093 | 9.909402 | 10.109907 |
| 5    | 9.799651 | 9.889999 | 9.909660 | 10.110010 |
| 6    | 9.799806 | 9.889888 | 9.909918 | 10.110112 |
| 7    | 9.799962 | 9.889785 | 9.910177 | 10.110215 |
| 8    | 9.800117 | 9.889682 | 9.910435 | 10.110318 |
| 9    | 9.800272 | 9.889579 | 9.910693 | 10.110421 |
| 10   | 9.800427 | 9.889476 | 9.910951 | 10.110523 |
| 11   | 9.800582 | 9.889374 | 9.911209 | 10.110626 |
| 12   | 9.800737 | 9.889271 | 9.911467 | 10.110729 |
| 13   | 9.800892 | 9.889167 | 9.911724 | 10.110832 |
| 14   | 9.801047 | 9.889064 | 9.911982 | 10.110935 |
| 15   | 9.801201 | 9.888961 | 9.912240 | 10.111039 |
| 16   | 9.801356 | 9.888858 | 9.912498 | 10.111142 |
| 17   | 9.801511 | 9.888755 | 9.912756 | 10.111245 |
| 18   | 9.801665 | 9.888651 | 9.913014 | 10.111349 |
| 19   | 9.801819 | 9.888548 | 9.913271 | 10.111452 |
| 20   | 9.801973 | 9.888444 | 9.913529 | 10.111556 |
| 21   | 9.802128 | 9.888341 | 9.913787 | 10.111659 |
| 22   | 9.802282 | 9.888237 | 9.914044 | 10.111763 |
| 23   | 9.802435 | 9.888133 | 9.914302 | 10.111866 |
| 24   | 9.802589 | 9.888030 | 9.914560 | 10.111970 |
| 25   | 9.802743 | 9.887926 | 9.914817 | 10.112074 |
| 26   | 9.802897 | 9.887822 | 9.915075 | 10.112178 |
| 27   | 9.803050 | 9.887718 | 9.915332 | 10.112282 |
| 28   | 9.803204 | 9.887614 | 9.915590 | 10.112386 |
| 29   | 9.803357 | 9.887510 | 9.915847 | 10.112490 |
| 30   | 9.803510 | 9.887406 | 9.916104 | 10.112594 |
|      | Sine.    | Tang.    | Secant.  |           |

50 Degrees.

## Tangents and Secants.

39 Degrees.

| M.<br>in. | Sine.    |          | Tang.    |           | Scant.    |              |
|-----------|----------|----------|----------|-----------|-----------|--------------|
| 30        | 9.803510 | 9.887406 | 9.916104 | 10.083895 | 10.112594 | 10.196489 30 |
| 31        | 9.803664 | 9.887302 | 9.916362 | 10.083628 | 10.112698 | 10.196336 29 |
| 32        | 9.803817 | 9.887198 | 9.916619 | 10.083381 | 10.112802 | 10.196183 28 |
| 33        | 9.803970 | 9.887093 | 9.916876 | 10.083123 | 10.112907 | 10.196030 27 |
| 34        | 9.804123 | 9.886989 | 9.917134 | 10.082866 | 10.113011 | 10.195877 26 |
| 35        | 9.804276 | 9.886885 | 9.917391 | 10.082609 | 10.113115 | 10.195724 25 |
| 36        | 9.804428 | 9.886780 | 9.917648 | 10.082352 | 10.113220 | 10.195572 24 |
| 37        | 9.804581 | 9.886676 | 9.917905 | 10.082094 | 10.113324 | 10.195419 23 |
| 38        | 9.804734 | 9.886571 | 9.918163 | 10.081837 | 10.113429 | 10.195266 22 |
| 39        | 9.804886 | 9.886466 | 9.918420 | 10.081587 | 10.113534 | 10.195114 21 |
| 40        | 9.805038 | 9.886362 | 9.918677 | 10.081323 | 10.113638 | 10.194961 20 |
| 41        | 9.805191 | 9.886257 | 9.918934 | 10.081066 | 10.113743 | 10.194809 19 |
| 42        | 9.805343 | 9.886152 | 9.919191 | 10.080809 | 10.113848 | 10.194657 18 |
| 43        | 9.805495 | 9.886047 | 9.919448 | 10.080552 | 10.113953 | 10.194505 17 |
| 44        | 9.805647 | 9.885942 | 9.919705 | 10.080295 | 10.114058 | 10.194353 16 |
| 45        | 9.805799 | 9.885837 | 9.919962 | 10.080038 | 10.114162 | 10.194201 15 |
| 46        | 9.805951 | 9.885732 | 9.920219 | 10.079781 | 10.114268 | 10.194049 14 |
| 47        | 9.806103 | 9.885627 | 9.920476 | 10.079524 | 10.114373 | 10.193857 13 |
| 48        | 9.806254 | 9.885521 | 9.920733 | 10.079267 | 10.114478 | 10.193746 12 |
| 49        | 9.806406 | 9.885416 | 9.920990 | 10.079010 | 10.114584 | 10.193604 11 |
| 50        | 9.806557 | 9.885311 | 9.921247 | 10.078753 | 10.114689 | 10.193442 10 |
| 51        | 9.806709 | 9.885205 | 9.921503 | 10.078497 | 10.114794 | 10.193291 9  |
| 52        | 9.806860 | 9.885100 | 9.921760 | 10.078240 | 10.114900 | 10.193140 8  |
| 53        | 9.807011 | 9.884994 | 9.922017 | 10.077983 | 10.115005 | 10.192989 7  |
| 54        | 9.807163 | 9.884889 | 9.922274 | 10.077726 | 10.115111 | 10.192837 6  |
| 55        | 9.807314 | 9.884783 | 9.922530 | 10.077470 | 10.115217 | 10.192686 5  |
| 56        | 9.807465 | 9.884677 | 9.922787 | 10.077213 | 10.115322 | 10.192535 4  |
| 57        | 9.807615 | 9.884572 | 9.923044 | 10.076956 | 10.115428 | 10.192385 3  |
| 58        | 9.807766 | 9.884466 | 9.923300 | 10.076700 | 10.115534 | 10.192234 2  |
| 59        | 9.807917 | 9.884360 | 9.923557 | 10.076443 | 10.115640 | 10.192083 1  |
| 60        | 9.808067 | 9.884254 | 9.923812 | 10.076186 | 10.115746 | 10.191932 0  |

Sine.

Tang.

Secant.

50 Degrees.

# A Table of Artificial Sines,

40 Degrees.

| Min. | Sine.    | Tang.    |          | Secant.   |           |
|------|----------|----------|----------|-----------|-----------|
| 0    | 9.808067 | 9.884254 | 9.923813 | 10.076186 | 10.115746 |
| 1    | 9.808218 | 9.884148 | 9.924070 | 10.075930 | 10.115852 |
| 2    | 9.808368 | 9.884042 | 9.924227 | 10.075673 | 10.115958 |
| 3    | 9.808519 | 9.883936 | 9.924383 | 10.075417 | 10.116064 |
| 4    | 9.808669 | 9.883829 | 9.924540 | 10.075160 | 10.116170 |
| 5    | 9.808819 | 9.883723 | 9.925096 | 10.074904 | 10.116277 |
| 6    | 9.808969 | 9.883617 | 9.925352 | 10.074648 | 10.116383 |
| 7    | 9.809119 | 9.883510 | 9.925609 | 10.074391 | 10.116490 |
| 8    | 9.809269 | 9.883404 | 9.925865 | 10.074135 | 10.116596 |
| 9    | 9.809419 | 9.883297 | 9.926121 | 10.073878 | 10.116702 |
| 10   | 9.809569 | 9.883191 | 9.926378 | 10.073622 | 10.116809 |
| 11   | 9.809718 | 9.883084 | 9.926634 | 10.073366 | 10.116916 |
| 12   | 9.809868 | 9.882977 | 9.926890 | 10.073110 | 10.117023 |
| 13   | 9.810017 | 9.882871 | 9.927147 | 10.072853 | 10.117129 |
| 14   | 9.810167 | 9.882764 | 9.927402 | 10.072507 | 10.117226 |
| 15   | 9.810316 | 9.882657 | 9.927659 | 10.072341 | 10.117343 |
| 16   | 9.810465 | 9.882550 | 9.927915 | 10.072085 | 10.117450 |
| 17   | 9.810614 | 9.882443 | 9.928171 | 10.071829 | 10.117537 |
| 18   | 9.810763 | 9.882336 | 9.928427 | 10.071573 | 10.117664 |
| 19   | 9.810912 | 9.882228 | 9.928682 | 10.071316 | 10.117771 |
| 20   | 9.811061 | 9.882121 | 9.928940 | 10.071060 | 10.117879 |
| 21   | 9.811210 | 9.882014 | 9.929196 | 10.070804 | 10.117986 |
| 22   | 9.811358 | 9.881907 | 9.929452 | 10.070548 | 10.118093 |
| 23   | 9.811507 | 9.881799 | 9.929708 | 10.070292 | 10.118201 |
| 24   | 9.811655 | 9.881692 | 9.929964 | 10.070026 | 10.118208 |
| 25   | 9.811804 | 9.881584 | 9.930219 | 10.069780 | 10.118416 |
| 26   | 9.811952 | 9.881477 | 9.930475 | 10.069524 | 10.118523 |
| 27   | 9.812100 | 9.881369 | 9.930731 | 10.069269 | 10.118631 |
| 28   | 9.812248 | 9.881261 | 9.930987 | 10.069013 | 10.118739 |
| 29   | 9.812396 | 9.881153 | 9.931243 | 10.068757 | 10.118847 |
| 30   | 9.812544 | 9.881045 | 9.931499 | 10.068501 | 10.118954 |

Sine.

Tang.

Secant.

Min.

49 Degrees

## Tangents and Secants.

40 Degrees.

| Sine.    | Tang.    | Secant.   |               |
|----------|----------|-----------|---------------|
| 9.812544 | 9.881055 | 10.068501 | 10.1187456 30 |
| 9.812692 | 9.880938 | 10.068245 | 10.1187308 29 |
| 9.812840 | 9.880830 | 10.067989 | 10.1187160 28 |
| 9.812988 | 9.880721 | 10.067734 | 10.1187012 27 |
| 9.813135 | 9.880613 | 10.067478 | 10.1186865 26 |
| 9.813283 | 9.880505 | 10.067222 | 10.1186717 25 |
| 9.813430 | 9.880397 | 10.066997 | 10.1186570 24 |
| 9.813578 | 9.880289 | 10.066711 | 10.1186422 23 |
| 9.813725 | 9.880180 | 10.066455 | 10.1186275 22 |
| 9.813872 | 9.880072 | 10.066200 | 10.1186128 21 |
| 9.814019 | 9.879963 | 10.065944 | 10.120037 20  |
| 9.814166 | 9.879855 | 10.065689 | 10.120145 19  |
| 9.814313 | 9.879746 | 10.065433 | 10.120254 18  |
| 9.814460 | 9.879637 | 10.065177 | 10.120362 17  |
| 9.814607 | 9.879529 | 10.064922 | 10.120471 16  |
| 9.814753 | 9.879420 | 10.064666 | 10.120580 15  |
| 9.814900 | 9.879311 | 10.064411 | 10.120689 14  |
| 9.815046 | 9.879202 | 10.064196 | 10.120798 13  |
| 9.815193 | 9.879093 | 10.063900 | 10.120907 12  |
| 9.815339 | 9.878984 | 10.063645 | 10.121016 11  |
| 9.815485 | 9.878875 | 10.063389 | 10.121125 10  |
| 9.815631 | 9.878766 | 10.063134 | 10.121234 9   |
| 9.815778 | 9.878656 | 10.062879 | 10.121344 8   |
| 9.815923 | 9.878547 | 10.062623 | 10.121453 7   |
| 9.816069 | 9.878438 | 10.062368 | 10.121562 6   |
| 9.816215 | 9.878328 | 10.062113 | 10.121672 5   |
| 9.816361 | 9.878219 | 10.061858 | 10.121781 4   |
| 9.816507 | 9.878109 | 10.061602 | 10.121891 3   |
| 9.816652 | 9.877999 | 10.061347 | 10.122001 2   |
| 9.816797 | 9.877890 | 10.061092 | 10.122110 1   |
| 9.816943 | 9.877780 | 10.060837 | 10.122220 0   |
| Sine.    | Tang.    | Secant.   | Min.          |

49 Degrees.

A a

A Table of Artificial Sines,

40 Degrees.

| Min. | Sine.    | Tang.    |          | Secant.   |           |
|------|----------|----------|----------|-----------|-----------|
| 0    | 9.808067 | 9.884254 | 9.923813 | 10.076186 | 10.115746 |
| 1    | 9.808218 | 9.884148 | 9.924070 | 10.075930 | 10.115852 |
| 2    | 9.808368 | 9.884042 | 9.924327 | 10.075673 | 10.115958 |
| 3    | 9.808519 | 9.883936 | 9.924583 | 10.075417 | 10.116064 |
| 4    | 9.808669 | 9.883829 | 9.924840 | 10.075160 | 10.116170 |
| 5    | 9.808819 | 9.883723 | 9.925096 | 10.074904 | 10.116277 |
| 6    | 9.808969 | 9.883617 | 9.925352 | 10.074648 | 10.116383 |
| 7    | 9.809119 | 9.883510 | 9.925609 | 10.074391 | 10.116490 |
| 8    | 9.809269 | 9.883404 | 9.925865 | 10.074135 | 10.116596 |
| 9    | 9.809419 | 9.883207 | 9.926121 | 10.073878 | 10.116702 |
| 10   | 9.809569 | 9.883101 | 9.926178 | 10.073622 | 10.116809 |
| 11   | 9.809718 | 9.883084 | 9.926634 | 10.073366 | 10.116916 |
| 12   | 9.809868 | 9.882077 | 9.926890 | 10.073110 | 10.117023 |
| 13   | 9.810017 | 9.882871 | 9.927147 | 10.072853 | 10.117129 |
| 14   | 9.810167 | 9.882764 | 9.927402 | 10.072597 | 10.117226 |
| 15   | 9.810316 | 9.882657 | 9.927659 | 10.072341 | 10.117343 |
| 16   | 9.810465 | 9.882550 | 9.927915 | 10.072085 | 10.117450 |
| 17   | 9.810614 | 9.882443 | 9.928171 | 10.071829 | 10.117537 |
| 18   | 9.810763 | 9.882336 | 9.928427 | 10.071573 | 10.117664 |
| 19   | 9.810912 | 9.882228 | 9.928682 | 10.071316 | 10.117771 |
| 20   | 9.811061 | 9.882121 | 9.928940 | 10.071060 | 10.117879 |
| 21   | 9.811210 | 9.882014 | 9.929196 | 10.070804 | 10.117986 |
| 22   | 9.811358 | 9.881907 | 9.929452 | 10.070548 | 10.118093 |
| 23   | 9.811507 | 9.881799 | 9.929708 | 10.070292 | 10.118201 |
| 24   | 9.811655 | 9.881692 | 9.929964 | 10.070026 | 10.118308 |
| 25   | 9.811804 | 9.881584 | 9.930219 | 10.069780 | 10.118416 |
| 26   | 9.811952 | 9.881477 | 9.930475 | 10.069524 | 10.118523 |
| 27   | 9.812100 | 9.881369 | 9.930731 | 10.069269 | 10.118631 |
| 28   | 9.812248 | 9.881261 | 9.930987 | 10.069013 | 10.118739 |
| 29   | 9.812396 | 9.881153 | 9.931243 | 10.068757 | 10.118847 |
| 30   | 9.812544 | 9.881045 | 9.931499 | 10.068501 | 10.118954 |

Sine.

Tang.

Secant.

49 Degrees

## Tangents and Secants.

*40 Degrees.*

| Min. | Sine.    | Tang.    | Secant.  | Min.      |
|------|----------|----------|----------|-----------|
| 30   | 9.812544 | 9.881055 | 9.931495 | 10.068501 |
| 31   | 9.812692 | 9.880938 | 9.931755 | 10.068245 |
| 32   | 9.812840 | 9.880830 | 9.932010 | 10.067989 |
| 33   | 9.812988 | 9.880721 | 9.932266 | 10.067734 |
| 34   | 9.813135 | 9.880613 | 0.022422 | 10.067478 |
| 35   | 9.813283 | 9.880505 | 9.932778 | 10.067222 |
| 36   | 9.813430 | 9.880397 | 9.933023 | 10.066997 |
| 37   | 9.813578 | 9.880289 | 9.933289 | 10.066711 |
| 38   | 9.813725 | 9.880180 | 9.933545 | 10.066455 |
| 39   | 9.813872 | 9.880072 | 9.933800 | 10.066200 |
| 40   | 9.814019 | 9.879963 | 9.934056 | 10.065944 |
| 41   | 9.814166 | 9.879855 | 9.934311 | 10.065689 |
| 42   | 9.814313 | 9.879746 | 9.934567 | 10.065433 |
| 43   | 9.814460 | 9.879637 | 9.934822 | 10.065177 |
| 44   | 9.814607 | 9.879529 | 9.935078 | 10.064922 |
| 45   | 9.814753 | 9.879420 | 9.935333 | 10.064666 |
| 46   | 9.814900 | 9.879311 | 9.935589 | 10.064411 |
| 47   | 9.815046 | 9.879202 | 9.935844 | 10.064196 |
| 48   | 9.815193 | 9.879093 | 9.936100 | 10.063900 |
| 49   | 9.815339 | 9.878984 | 9.936355 | 10.063645 |
| 50   | 9.815485 | 9.878875 | 9.936610 | 10.063389 |
| 51   | 9.815631 | 9.878766 | 9.936866 | 10.063134 |
| 52   | 9.815778 | 9.878656 | 9.937121 | 10.062879 |
| 53   | 9.815923 | 9.878547 | 9.937376 | 10.062623 |
| 54   | 9.816069 | 9.878438 | 9.937522 | 10.062368 |
| 55   | 9.816215 | 9.878328 | 9.937887 | 10.062113 |
| 56   | 9.816361 | 9.878219 | 9.938142 | 10.061858 |
| 57   | 9.816507 | 9.878109 | 9.938397 | 10.061602 |
| 58   | 9.816652 | 9.877999 | 9.938652 | 10.061347 |
| 59   | 9.816797 | 9.877890 | 9.938908 | 10.061092 |
| 60   | 9.816943 | 9.877780 | 9.939162 | 10.060837 |
|      | Sine.    | Tang.    | Secant.  | Min.      |

*49 Degrees.*

A a

A Table of Artificial Sines,

41 Degrees.

| Min. | Sine.    | Tang.    |          | Secant.   |           |              |
|------|----------|----------|----------|-----------|-----------|--------------|
| 0    | 9.816943 | 9.877780 | 9.939163 | 10.060837 | 10.122220 | 10.183057 60 |
| 1    | 9.817088 | 9.877670 | 9.939418 | 10.060582 | 10.122330 | 10.182919 59 |
| 2    | 9.817233 | 9.877560 | 9.939673 | 10.060327 | 10.122440 | 10.182767 58 |
| 3    | 9.817378 | 9.877450 | 9.939928 | 10.060072 | 10.122550 | 10.182621 57 |
| 4    | 9.817523 | 9.877340 | 9.940183 | 10.059816 | 10.122660 | 10.182476 56 |
| 5    | 9.817668 | 9.877230 | 9.940438 | 10.059561 | 10.122770 | 10.182331 55 |
| 6    | 9.817813 | 9.877120 | 9.940694 | 10.059306 | 10.122880 | 10.182187 54 |
| 7    | 9.817958 | 9.877010 | 9.940949 | 10.059051 | 10.122990 | 10.182042 53 |
| 8    | 9.818103 | 9.876899 | 9.941204 | 10.058796 | 10.123101 | 10.181897 52 |
| 9    | 9.818247 | 9.876789 | 9.941458 | 10.058541 | 10.123211 | 10.181752 51 |
| 10   | 9.818392 | 9.876678 | 9.941713 | 10.058285 | 10.123321 | 10.181608 50 |
| 11   | 9.818536 | 9.876568 | 9.941968 | 10.058032 | 10.123432 | 10.181464 49 |
| 12   | 9.818681 | 9.876457 | 9.942223 | 10.057777 | 10.123543 | 10.181319 48 |
| 13   | 9.818825 | 9.876347 | 9.942478 | 10.057522 | 10.123653 | 10.181175 47 |
| 14   | 9.818969 | 9.876236 | 9.942733 | 10.057267 | 10.123764 | 10.181031 46 |
| 15   | 9.819113 | 9.876125 | 9.942988 | 10.057011 | 10.123875 | 10.180886 45 |
| 16   | 9.819258 | 9.876014 | 9.943243 | 10.056757 | 10.123985 | 10.180742 44 |
| 17   | 9.819401 | 9.875904 | 9.943498 | 10.056502 | 10.124096 | 10.180598 43 |
| 18   | 9.819545 | 9.875793 | 9.943752 | 10.056248 | 10.124207 | 10.180455 42 |
| 19   | 9.819686 | 9.875682 | 9.944007 | 10.055992 | 10.124318 | 10.180311 41 |
| 20   | 9.819832 | 9.875571 | 9.944262 | 10.055738 | 10.124429 | 10.180167 40 |
| 21   | 9.819976 | 9.875459 | 9.944517 | 10.055483 | 10.124541 | 10.180024 39 |
| 22   | 9.820120 | 9.875348 | 9.944771 | 10.055229 | 10.124652 | 10.179880 38 |
| 23   | 9.820263 | 9.875237 | 9.945026 | 10.054974 | 10.124763 | 10.179737 37 |
| 24   | 9.820406 | 9.875126 | 9.945281 | 10.054719 | 10.124874 | 10.179594 36 |
| 25   | 9.820550 | 9.875014 | 9.945535 | 10.054465 | 10.124986 | 10.179450 35 |
| 26   | 9.820663 | 9.874903 | 9.945790 | 10.054210 | 10.125097 | 10.179307 34 |
| 27   | 9.820836 | 9.874791 | 9.946045 | 10.053955 | 10.125209 | 10.179164 33 |
| 28   | 9.820979 | 9.874679 | 9.946299 | 10.053701 | 10.125320 | 10.178021 32 |
| 29   | 9.821122 | 9.874568 | 9.946554 | 10.053446 | 10.125432 | 10.178878 31 |
| 30   | 9.821265 | 9.874456 | 9.946808 | 10.053192 | 10.125544 | 10.178735 30 |
|      | Sine.    |          | Tang.    |           | Secant.   |              |

48 Degrees.

# Tangents and Secants.

41 Degrees.

| Min. | Sine.    | Tang.    | Secant.  | Min.      |
|------|----------|----------|----------|-----------|
| 30   | 9.821265 | 9.874456 | 9.946805 | 10.125544 |
| 31   | 9.821407 | 9.874344 | 9.947063 | 10.125293 |
| 32   | 9.821550 | 9.874232 | 9.947317 | 10.125656 |
| 33   | 9.821693 | 9.874120 | 9.947572 | 10.125428 |
| 34   | 9.821835 | 9.874008 | 9.947826 | 10.125173 |
| 35   | 9.821977 | 9.873890 | 9.948081 | 10.126103 |
| 36   | 9.822120 | 9.873784 | 9.948335 | 10.126216 |
| 37   | 9.822262 | 9.873672 | 9.948590 | 10.126328 |
| 38   | 9.822404 | 9.873560 | 9.948844 | 10.126440 |
| 39   | 9.822546 | 9.873448 | 9.949099 | 10.126552 |
| 40   | 9.822688 | 9.873335 | 9.949353 | 10.126665 |
| 41   | 9.822830 | 9.873223 | 9.949607 | 10.126777 |
| 42   | 9.822972 | 9.873110 | 9.949862 | 10.126900 |
| 43   | 9.823114 | 9.872998 | 9.950116 | 10.127002 |
| 44   | 9.823255 | 9.872885 | 9.950370 | 10.127115 |
| 45   | 9.823397 | 9.872772 | 9.950625 | 10.127228 |
| 46   | 9.823539 | 9.872655 | 9.950879 | 10.127341 |
| 47   | 9.823680 | 9.872547 | 9.951133 | 10.127453 |
| 48   | 9.823821 | 9.872434 | 9.951388 | 10.127566 |
| 49   | 9.823963 | 9.872321 | 9.951642 | 10.127679 |
| 50   | 9.824104 | 9.872208 | 9.951896 | 10.127792 |
| 51   | 9.824245 | 9.872094 | 9.952150 | 10.127905 |
| 52   | 9.824386 | 9.871981 | 9.952404 | 10.128019 |
| 53   | 9.824527 | 9.871868 | 9.952659 | 10.128132 |
| 54   | 9.824668 | 9.871755 | 9.952913 | 10.128245 |
| 55   | 9.824808 | 9.871641 | 9.953167 | 10.128359 |
| 56   | 9.824949 | 9.871528 | 9.953421 | 10.128472 |
| 57   | 9.825090 | 9.871414 | 9.953675 | 10.128586 |
| 58   | 9.825230 | 9.871301 | 9.953929 | 10.128699 |
| 59   | 9.825370 | 9.871187 | 9.954183 | 10.128813 |
| 60   | 9.825511 | 9.871073 | 9.954437 | 10.128926 |
|      | Sine.    | Tang.    | Secant.  | Min.      |

42 Degrees.

A Table of Artificial Sines,

42 Degrees.

| M  | Sine.    | Tang.    |          | Secant.   |           |
|----|----------|----------|----------|-----------|-----------|
| 0  | 9.825513 | 9.871073 | 9.954437 | 10.045563 | 10.128926 |
| 1  | 9.825651 | 9.870969 | 9.954691 | 10.045308 | 10.129040 |
| 2  | 9.825791 | 9.870846 | 9.954945 | 10.045054 | 10.129154 |
| 3  | 9.825931 | 9.870732 | 9.955199 | 10.044800 | 10.129268 |
| 4  | 9.826071 | 9.870618 | 9.955453 | 10.044546 | 10.129382 |
| 5  | 9.826211 | 9.870504 | 9.955707 | 10.044292 | 10.129496 |
| 6  | 9.826351 | 9.870390 | 9.955961 | 10.044038 | 10.129610 |
| 7  | 9.826491 | 9.870276 | 9.956215 | 10.043785 | 10.129724 |
| 8  | 9.826631 | 9.870161 | 9.956469 | 10.043531 | 10.129839 |
| 9  | 9.826770 | 9.870047 | 9.956723 | 10.043277 | 10.129953 |
| 10 | 9.826910 | 9.869933 | 9.956977 | 10.043023 | 10.130067 |
| 11 | 9.827049 | 9.869818 | 9.957231 | 10.042769 | 10.130182 |
| 12 | 9.827189 | 9.869704 | 9.957485 | 10.042515 | 10.130296 |
| 13 | 9.827328 | 9.869589 | 9.957739 | 10.042261 | 10.130411 |
| 14 | 9.827467 | 9.869474 | 9.957993 | 10.042007 | 10.130526 |
| 15 | 9.827606 | 9.869360 | 9.958246 | 10.041753 | 10.130640 |
| 16 | 9.827745 | 9.869245 | 9.958500 | 10.041500 | 10.130755 |
| 17 | 9.827884 | 9.869130 | 9.958754 | 10.041246 | 10.130870 |
| 18 | 9.828023 | 9.869015 | 9.959008 | 10.040992 | 10.130985 |
| 19 | 9.828162 | 9.868900 | 9.959262 | 10.040738 | 10.131100 |
| 20 | 9.828301 | 9.868785 | 9.959515 | 10.040484 | 10.131215 |
| 21 | 9.828439 | 9.868670 | 9.959770 | 10.040231 | 10.131330 |
| 22 | 9.828578 | 9.868555 | 9.960023 | 10.039977 | 10.131445 |
| 23 | 9.828716 | 9.868440 | 9.960277 | 10.039723 | 10.131560 |
| 24 | 9.828855 | 9.868324 | 9.960530 | 10.039470 | 10.131676 |
| 25 | 9.828993 | 9.868209 | 9.960784 | 10.039216 | 10.131791 |
| 26 | 9.829131 | 9.868093 | 9.961038 | 10.038962 | 10.131907 |
| 27 | 9.829269 | 9.867978 | 9.961291 | 10.038708 | 10.132022 |
| 28 | 9.829407 | 9.867862 | 9.961545 | 10.038455 | 10.132138 |
| 29 | 9.829545 | 9.867747 | 9.961799 | 10.038201 | 10.132253 |
| 30 | 9.829683 | 9.867631 | 9.962052 | 10.037947 | 10.132369 |
|    | Sine.    |          | Tang.    |           | Secant.   |

47 Degrees.

## Tangents and Secants.

42 Degrees.

| Min. | Sine.    | Tang.    | Secant.  |           |
|------|----------|----------|----------|-----------|
| 30   | 9.829683 | 9.867631 | 9.962053 | 10.132369 |
| 31   | 9.829821 | 9.867515 | 9.962300 | 10.132694 |
| 32   | 9.829959 | 9.867399 | 9.962560 | 10.132440 |
| 33   | 9.830097 | 9.867283 | 9.962813 | 10.132187 |
| 34   | 9.830234 | 9.867167 | 9.963067 | 10.132833 |
| 35   | 9.830372 | 9.867051 | 9.963320 | 10.132949 |
| 36   | 9.830509 | 9.866935 | 9.963574 | 10.133065 |
| 37   | 9.830646 | 9.866819 | 9.963827 | 10.133172 |
| 38   | 9.830784 | 9.866703 | 9.964081 | 10.133297 |
| 39   | 9.830921 | 9.866587 | 9.964335 | 10.133414 |
| 40   | 9.831058 | 9.866470 | 9.964588 | 10.133530 |
| 41   | 9.831195 | 9.866353 | 9.964842 | 10.133647 |
| 42   | 9.831332 | 9.866237 | 9.965095 | 10.133763 |
| 43   | 9.831469 | 9.866120 | 9.965349 | 10.133880 |
| 44   | 9.831606 | 9.866004 | 9.965002 | 10.133997 |
| 45   | 9.831742 | 9.865887 | 9.965855 | 10.134113 |
| 46   | 9.831879 | 9.865770 | 9.966109 | 10.134230 |
| 47   | 9.832015 | 9.865653 | 9.966362 | 10.134327 |
| 48   | 9.832152 | 9.865530 | 9.966616 | 10.134464 |
| 49   | 9.832288 | 9.865419 | 9.966869 | 10.134581 |
| 50   | 9.832425 | 9.865302 | 9.967122 | 10.134698 |
| 51   | 9.832561 | 9.865185 | 9.967376 | 10.134815 |
| 52   | 9.832697 | 9.865068 | 9.967030 | 10.134932 |
| 53   | 9.832833 | 9.864950 | 9.967883 | 10.135050 |
| 54   | 9.832970 | 9.864833 | 9.968136 | 10.135167 |
| 55   | 9.833105 | 9.864716 | 9.968384 | 10.135284 |
| 56   | 9.833241 | 9.864598 | 9.968643 | 10.135402 |
| 57   | 9.833377 | 9.864481 | 9.968897 | 10.135519 |
| 58   | 9.833512 | 9.864363 | 9.969150 | 10.135637 |
| 59   | 9.833648 | 9.864245 | 9.969403 | 10.135755 |
| 60   | 9.833783 | 9.864127 | 9.969656 | 10.135872 |
|      | Sine.    | Tang.    | Secant.  | Min.      |

47 Degrees.

A Table of Artificial Sines,

43 Degrees.

|    | Sine.    | Tang.    | Secant.  |           |
|----|----------|----------|----------|-----------|
| 1  | 9.833785 | 9.864127 | 9.959656 | 10.030344 |
| 2  | 9.833919 | 9.864010 | 9.969909 | 10.030091 |
| 3  | 9.834054 | 9.863892 | 9.970162 | 10.029838 |
| 4  | 9.834189 | 9.863774 | 9.970416 | 10.029584 |
| 5  | 9.834325 | 9.863656 | 9.970669 | 10.029331 |
| 6  | 9.834460 | 9.863537 | 9.970922 | 10.029078 |
| 7  | 9.834595 | 9.863419 | 9.971175 | 10.028825 |
| 8  | 9.834730 | 9.863301 | 9.971429 | 10.028571 |
| 9  | 9.834865 | 9.863183 | 9.971682 | 10.028318 |
| 10 | 9.834999 | 9.863064 | 9.971935 | 10.028065 |
| 11 | 9.835134 | 9.862946 | 9.972188 | 10.027812 |
| 12 | 9.835269 | 9.862827 | 9.972441 | 10.027559 |
| 13 | 9.835403 | 9.862709 | 9.972694 | 10.027305 |
| 14 | 9.835538 | 9.862590 | 9.972948 | 10.027052 |
| 15 | 9.835672 | 9.862471 | 9.973201 | 10.026799 |
| 16 | 9.835807 | 9.862353 | 9.973454 | 10.026546 |
| 17 | 9.835940 | 9.862234 | 9.973707 | 10.026293 |
| 18 | 9.836075 | 9.862115 | 9.973960 | 10.026040 |
| 19 | 9.836219 | 9.861996 | 9.974213 | 10.025787 |
| 20 | 9.836343 | 9.861877 | 9.974466 | 10.025534 |
| 21 | 9.836477 | 9.861758 | 9.974719 | 10.025280 |
| 22 | 9.836611 | 9.861638 | 9.974973 | 10.025027 |
| 23 | 9.836745 | 9.861519 | 9.975226 | 10.024774 |
| 24 | 9.836878 | 9.861400 | 9.975479 | 10.024521 |
| 25 | 9.837012 | 9.861280 | 9.975732 | 10.024268 |
| 26 | 9.837146 | 9.861161 | 9.975985 | 10.024015 |
| 27 | 9.837279 | 9.861041 | 9.976238 | 10.023762 |
| 28 | 9.837412 | 9.860921 | 9.976451 | 10.023509 |
| 29 | 9.837546 | 9.860802 | 9.976744 | 10.023256 |
| 30 | 9.837679 | 9.860682 | 9.976997 | 10.023003 |
|    | 9.837812 | 9.860562 | 9.977250 | 10.022750 |
|    | Sine.    | Tang.    | Secant.  | Min.      |

46 Degrees

# Tangents and Secants.

43 Degrees.

| Min. | Sine.    | Tang.    |          | Scant.    |                        |
|------|----------|----------|----------|-----------|------------------------|
| 30   | 9.837812 | 9.860562 | 9.977250 | 10.022750 | 10.139438 10.162188 30 |
| 31   | 9.837945 | 9.860442 | 9.977503 | 10.022497 | 10.139558 10.162055 29 |
| 32   | 9.838078 | 9.860322 | 9.977756 | 10.022244 | 10.139678 10.161922 28 |
| 33   | 9.838211 | 9.860202 | 9.978009 | 10.021991 | 10.139798 10.161789 27 |
| 34   | 9.838344 | 9.860082 | 9.978262 | 10.021728 | 10.139918 10.161656 26 |
| 35   | 9.838477 | 9.859962 | 9.978515 | 10.021485 | 10.140038 10.161523 25 |
| 36   | 9.838607 | 9.859842 | 9.978768 | 10.021232 | 10.140158 10.161390 24 |
| 37   | 9.838742 | 9.859721 | 9.979021 | 10.020969 | 10.140279 10.161258 23 |
| 38   | 9.838875 | 9.859601 | 9.979274 | 10.020726 | 10.140399 10.161125 22 |
| 39   | 9.839007 | 9.859480 | 9.979527 | 10.020473 | 10.140520 10.160993 21 |
| 40   | 9.839140 | 9.859360 | 9.979780 | 10.020220 | 10.140640 10.160860 20 |
| 41   | 9.839272 | 9.859239 | 9.980033 | 10.019967 | 10.140761 10.160728 19 |
| 42   | 9.839404 | 9.859119 | 9.980286 | 10.019714 | 10.140881 10.160596 18 |
| 43   | 9.839536 | 9.858998 | 9.980538 | 10.019461 | 10.141002 10.160464 17 |
| 44   | 9.839668 | 9.858877 | 9.980791 | 10.019209 | 10.141122 10.160332 16 |
| 45   | 9.839800 | 9.858756 | 9.981044 | 10.018956 | 10.141244 10.160200 15 |
| 46   | 9.839932 | 9.858635 | 9.981297 | 10.018703 | 10.141365 10.160068 14 |
| 47   | 9.840064 | 9.858514 | 9.981550 | 10.018450 | 10.141486 10.159930 13 |
| 48   | 9.840196 | 9.858393 | 9.981803 | 10.018197 | 10.141607 10.159804 12 |
| 49   | 9.840328 | 9.858272 | 9.982056 | 10.017944 | 10.141728 10.159672 11 |
| 50   | 9.840460 | 9.858150 | 9.982309 | 10.017691 | 10.141849 10.159541 10 |
| 51   | 9.840591 | 9.858029 | 9.982562 | 10.017438 | 10.141971 10.159409 9  |
| 52   | 9.840722 | 9.857908 | 9.982814 | 10.017185 | 10.142092 10.159278 8  |
| 53   | 9.840854 | 9.857786 | 9.983067 | 10.016933 | 10.142214 10.159146 7  |
| 54   | 9.840985 | 9.857665 | 9.983320 | 10.016080 | 10.142335 10.159015 6  |
| 55   | 9.841116 | 9.857543 | 9.983573 | 10.016427 | 10.142457 10.158884 5  |
| 56   | 9.841247 | 9.857421 | 9.983826 | 10.016174 | 10.142579 10.158753 4  |
| 57   | 9.841378 | 9.857300 | 9.984079 | 10.015921 | 10.142700 10.158621 3  |
| 58   | 9.841509 | 9.857178 | 9.984331 | 10.015668 | 10.142822 10.158490 2  |
| 59   | 9.841640 | 9.857056 | 9.984584 | 10.015416 | 10.142944 10.158360 1  |
| 60   | 9.841771 | 9.856934 | 9.984837 | 10.015163 | 10.143066 10.158229 0  |
|      | Sine.    | Tang.    |          | Secant.   |                        |

45 Degrees.

A Table of Artificial Sines,

44 Degrees.

| Min. | Sine.    | Tang.    |          | Secant.   | Min.      |
|------|----------|----------|----------|-----------|-----------|
| 0    | 9.841771 | 9.856934 | 9.984837 | 10.143066 | 10.158229 |
| 1    | 9.841902 | 9.856812 | 9.985090 | 10.143188 | 10.158098 |
| 2    | 9.842033 | 9.856690 | 9.985343 | 10.143267 | 10.157967 |
| 3    | 9.842163 | 9.856568 | 9.985595 | 10.143404 | 10.157837 |
| 4    | 9.842294 | 9.856445 | 9.985848 | 10.143554 | 10.157706 |
| 5    | 9.842424 | 9.856323 | 9.986101 | 10.143677 | 10.157576 |
| 6    | 9.842555 | 9.856201 | 9.986354 | 10.143799 | 10.157445 |
| 7    | 9.842685 | 9.856078 | 9.986507 | 10.143922 | 10.157315 |
| 8    | 9.842815 | 9.855956 | 9.986860 | 10.144044 | 10.157185 |
| 9    | 9.842946 | 9.855822 | 9.987112 | 10.144167 | 10.157054 |
| 10   | 9.843076 | 9.855711 | 9.987365 | 10.144289 | 10.156924 |
| 11   | 9.843206 | 9.855588 | 9.987618 | 10.144412 | 10.156794 |
| 12   | 9.843336 | 9.855465 | 9.987871 | 10.144535 | 10.156664 |
| 13   | 9.843465 | 9.855342 | 9.988123 | 10.144658 | 10.156534 |
| 14   | 9.843504 | 9.855219 | 9.988376 | 10.144781 | 10.156405 |
| 15   | 9.843725 | 9.855096 | 9.988629 | 10.144904 | 10.156275 |
| 16   | 9.843854 | 9.854973 | 9.988882 | 10.145027 | 10.156145 |
| 17   | 9.843984 | 9.854850 | 9.989124 | 10.145150 | 10.156016 |
| 18   | 9.844114 | 9.854727 | 9.989387 | 10.145273 | 10.155886 |
| 19   | 9.844242 | 9.854603 | 9.989640 | 10.145397 | 10.155757 |
| 20   | 9.844372 | 9.854480 | 9.989893 | 10.145520 | 10.155627 |
| 21   | 9.844502 | 9.854356 | 9.990140 | 10.145644 | 10.155498 |
| 22   | 9.844631 | 9.854233 | 9.990398 | 10.145767 | 10.155369 |
| 23   | 9.844760 | 9.854109 | 9.990651 | 10.145891 | 10.155240 |
| 24   | 9.844880 | 9.854086 | 9.990903 | 10.146014 | 10.155111 |
| 25   | 9.845018 | 9.853862 | 9.991156 | 10.146138 | 10.154982 |
| 26   | 9.845147 | 9.853738 | 9.991409 | 10.146262 | 10.154853 |
| 27   | 9.845276 | 9.853614 | 9.991662 | 10.146386 | 10.154724 |
| 28   | 9.845404 | 9.853490 | 9.991914 | 10.146510 | 10.154595 |
| 29   | 9.845533 | 9.853366 | 9.992167 | 10.146634 | 10.154467 |
| 30   | 9.845662 | 9.853242 | 9.992420 | 10.146758 | 10.154328 |
|      | Sine.    | Tang.    |          | Secant.   | Min.      |

45 Degrees.

Tangents and Secants.

44 Degrees.

| M. | Sine.    |          | Tang.     |           | Secant.   |           |
|----|----------|----------|-----------|-----------|-----------|-----------|
| 30 | 9.845602 | 9.853242 | 9.992420  | 10.007580 | 10.146758 | 10.154338 |
| 31 | 9.845790 | 9.853118 | 9.992672  | 10.007328 | 10.146882 | 10.154210 |
| 32 | 9.845919 | 9.852994 | 9.992925  | 10.007075 | 10.147006 | 10.154081 |
| 33 | 9.846047 | 9.852869 | 9.993178  | 10.006822 | 10.147131 | 10.153952 |
| 34 | 9.846175 | 9.852745 | 9.993430  | 10.006560 | 10.147255 | 10.153825 |
| 35 | 9.846304 | 9.852620 | 9.993083  | 10.006317 | 10.147380 | 10.153696 |
| 36 | 9.846432 | 9.852496 | 9.993936  | 10.006064 | 10.147504 | 10.153568 |
| 37 | 9.846551 | 9.852371 | 9.994189  | 10.005811 | 10.147629 | 10.153440 |
| 38 | 9.846688 | 9.852247 | 9.994441  | 10.005559 | 10.147753 | 10.153312 |
| 39 | 9.846816 | 9.852122 | 9.994694  | 10.005206 | 10.147878 | 10.153184 |
| 40 | 9.846944 | 9.851997 | 9.994947  | 10.005035 | 10.148003 | 10.153056 |
| 41 | 9.847074 | 9.851872 | 9.995199  | 10.004801 | 10.148128 | 10.152929 |
| 42 | 9.847199 | 9.851747 | 9.995452  | 10.004548 | 10.148253 | 10.152801 |
| 43 | 9.847327 | 9.851622 | 9.995705  | 10.004295 | 10.148378 | 10.152673 |
| 44 | 9.847454 | 9.851497 | 9.995957  | 10.004042 | 10.148503 | 10.152546 |
| 45 | 9.847582 | 9.851372 | 9.996210  | 10.003790 | 10.148628 | 10.152418 |
| 46 | 9.847709 | 9.851246 | 9.996463  | 10.003537 | 10.148753 | 10.152291 |
| 47 | 9.847836 | 9.851121 | 9.996715  | 10.003285 | 10.148879 | 10.152162 |
| 48 | 9.847964 | 9.850995 | 9.996968  | 10.003032 | 10.149004 | 10.152036 |
| 49 | 9.848091 | 9.850870 | 9.997221  | 10.002779 | 10.149120 | 10.151909 |
| 50 | 9.848218 | 9.850745 | 9.997473  | 10.002527 | 10.149255 | 10.151782 |
| 51 | 9.848345 | 9.850619 | 9.997726  | 10.002274 | 10.149381 | 10.151655 |
| 52 | 9.848472 | 9.850493 | 9.997979  | 10.002021 | 10.149507 | 10.151528 |
| 53 | 9.848599 | 9.850367 | 9.998231  | 10.001769 | 10.149632 | 10.151401 |
| 54 | 9.848726 | 9.850242 | 9.998484  | 10.001516 | 10.149758 | 10.151274 |
| 55 | 9.848852 | 9.850110 | 9.998737  | 10.001263 | 10.149884 | 10.151148 |
| 56 | 9.848979 | 9.849990 | 9.998989  | 10.001011 | 10.150010 | 10.151021 |
| 57 | 9.849106 | 9.849864 | 9.999242  | 10.000758 | 10.150136 | 10.150894 |
| 58 | 9.849232 | 9.849737 | 9.999495  | 10.000505 | 10.150262 | 10.150768 |
| 59 | 9.849359 | 9.849611 | 9.999747  | 10.000253 | 10.150389 | 10.150641 |
| 60 | 9.849485 | 9.849485 | 10.000000 | 10.000000 | 10.150515 | 10.150515 |
|    | Sine.    |          | Tang.     |           | Secant.   |           |

45 Degrees.

B. b

A Table of Angles, which every Rhomb (or Point of the Compass) maketh with the Meridian.

| <u>North.</u>     | <u>South.</u>     | <u>Points.</u> | <u>D.</u> | <u>M.</u> | <u>North.</u>    | <u>South.</u>     |
|-------------------|-------------------|----------------|-----------|-----------|------------------|-------------------|
|                   |                   | $\frac{1}{4}$  | 02        | 49        |                  |                   |
|                   |                   | $\frac{1}{2}$  | 05        | 37        |                  |                   |
|                   |                   | $\frac{3}{4}$  | 08        | 26        |                  |                   |
| <u>N. by E.</u>   | <u>S. by East</u> | <u>I</u>       | <u>XI</u> | <u>15</u> | <u>N. by W.</u>  | <u>S. by W.</u>   |
|                   |                   | <u>I</u>       | <u>14</u> | <u>04</u> |                  |                   |
|                   |                   | <u>I</u>       | <u>16</u> | <u>52</u> |                  |                   |
|                   |                   | <u>I</u>       | <u>19</u> | <u>41</u> |                  |                   |
| <u>N. N. E.</u>   | <u>S. S. E.</u>   | <u>2</u>       | <u>22</u> | <u>30</u> | <u>N. N. W.</u>  | <u>S. S. W.</u>   |
|                   |                   | <u>2</u>       | <u>25</u> | <u>19</u> |                  |                   |
|                   |                   | <u>2</u>       | <u>28</u> | <u>07</u> |                  |                   |
|                   |                   | <u>2</u>       | <u>30</u> | <u>56</u> |                  |                   |
| <u>N.E. by N</u>  | <u>S.E. by S.</u> | <u>3</u>       | <u>33</u> | <u>45</u> | <u>Nw. by N</u>  | <u>S.W. by S.</u> |
|                   |                   | <u>3</u>       | <u>36</u> | <u>34</u> |                  |                   |
|                   |                   | <u>3</u>       | <u>39</u> | <u>22</u> |                  |                   |
|                   |                   | <u>3</u>       | <u>42</u> | <u>11</u> |                  |                   |
| <u>No. East</u>   | <u>Sou. East.</u> | <u>4</u>       | <u>45</u> | <u>00</u> | <u>No. West.</u> | <u>So. West.</u>  |
|                   |                   | <u>4</u>       | <u>47</u> | <u>49</u> |                  |                   |
|                   |                   | <u>4</u>       | <u>50</u> | <u>37</u> |                  |                   |
|                   |                   | <u>4</u>       | <u>53</u> | <u>26</u> |                  |                   |
| <u>N.E. by E.</u> | <u>S.E. by E.</u> | <u>5</u>       | <u>56</u> | <u>15</u> | <u>Nw. by w</u>  | <u>Sw. by W</u>   |
|                   |                   | <u>5</u>       | <u>59</u> | <u>04</u> |                  |                   |
|                   |                   | <u>5</u>       | <u>61</u> | <u>52</u> |                  |                   |
|                   |                   | <u>5</u>       | <u>64</u> | <u>42</u> |                  |                   |
| <u>E. N. E.</u>   | <u>E. S. E.</u>   | <u>6</u>       | <u>67</u> | <u>30</u> | <u>W.N.W.</u>    | <u>W. S. W.</u>   |
|                   |                   | <u>6</u>       | <u>70</u> | <u>19</u> |                  |                   |
|                   |                   | <u>6</u>       | <u>73</u> | <u>07</u> |                  |                   |
|                   |                   | <u>6</u>       | <u>75</u> | <u>56</u> |                  |                   |
| <u>E. by N.</u>   | <u>E. by S.</u>   | <u>7</u>       | <u>78</u> | <u>45</u> | <u>W. by N.</u>  | <u>W. bv S.</u>   |
|                   |                   | <u>7</u>       | <u>81</u> | <u>34</u> |                  |                   |
|                   |                   | <u>7</u>       | <u>84</u> | <u>22</u> |                  |                   |
|                   |                   | <u>7</u>       | <u>87</u> | <u>11</u> |                  |                   |
| <u>East.</u>      | <u>East.</u>      | <u>8</u>       | <u>90</u> | <u>00</u> | <u>West.</u>     | <u>West.</u>      |

FINIS.



